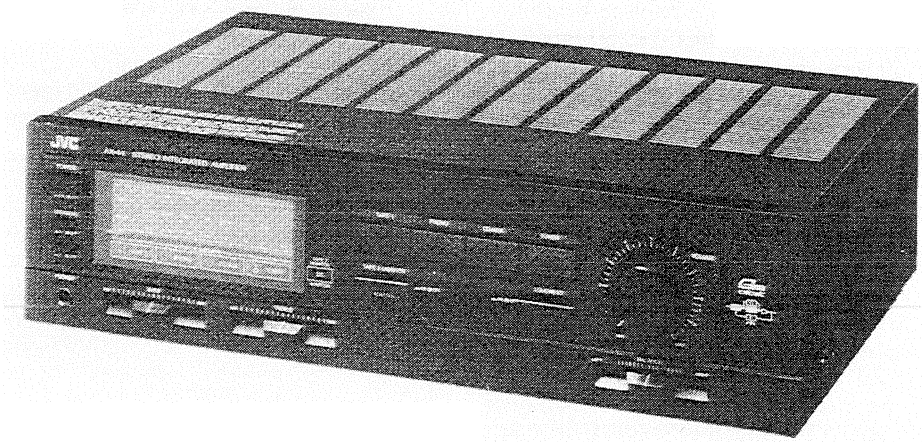
AX-44BK

JVC

SERVICE MANUAL

STEREO INTEGRATED AMPLIFIER

MODEL NO. **AX-44BK**



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This manual combines two single volumes; Service manual and Parts list.

No. 2891
Jan. 1986

Safety Precautions

1. The design of this product contains special hardware, many circuits and components specially for safety purposes.
   For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list in Service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and/or the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard.
   When service is required, the original lead routing and dress should be observed, and they should be confirmed to be returned to normal, after reassembling.
5. Leakage current check
   (Safety for electrical shock hazard)
   After reassembling the product, always perform an isolation check on the exposed metal parts of the Products (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).
   - Alternate check method.
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.).
     This corresponds to 0.5 mA AC (r.m.s.).

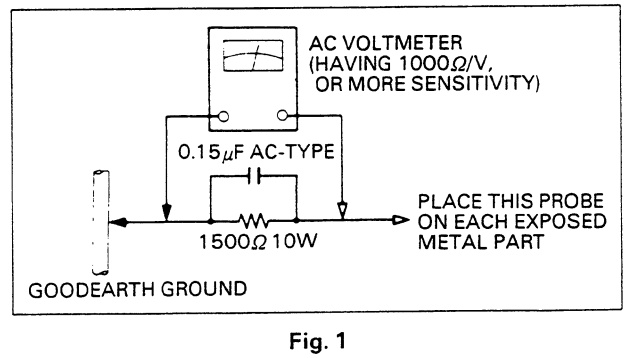
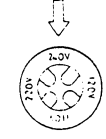


Fig. 1

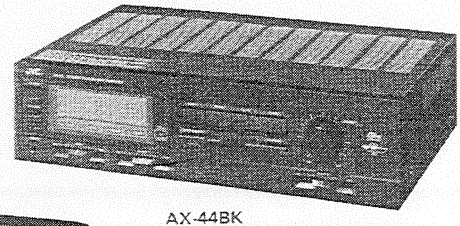
CHECKING YOUR LINE VOLTAGE (For U.S. Military Market)
Before inserting the power plug, please check this setting to see that it corresponds with the line voltage in your area. If it doesn't be sure to adjust the voltage selector switch to the proper setting before operating this equipment. The voltage selector switch is located on the rear panel.
CAUTION: Before selecting the "Voltage selector switch" to proper voltage disconnect the power plug.



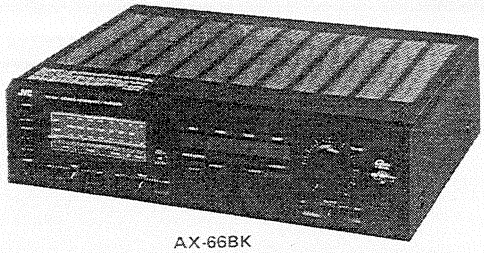
JVC | Instruction Book

STEREO INTEGRATED AMPLIFIER
AX-44BK/AX-66BK

MANUEL D'INSTRUCTIONS: AMPLIFICATEUR STEREO INTEGRE



AX-44BK



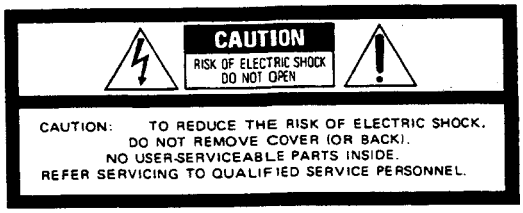
AX-66BK

For Customer Use:
Enter below the Model No. and Serial No. which is located either on the rear, bottom or side of the cabinet. Retain this information for future reference.

Model No. _____

Serial No. _____

E30580-1286B


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT (CANADA ONLY/CANADA SEULEMENT)

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTEFICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT

CAUTION

To reduce the risk of electrical shocks, fire, etc.:
1. Do not remove screws, covers or cabinet.
2. Do not expose this appliance to rain or moisture.

ATTENTION

Afin d'éviter tout risque d'électrocution, d'incendie etc.:
1. Ne pas enlever les vis ni les panneaux et ne pas ouvrir le coffret de l'appareil.
2. Ne pas exposer l'appareil à la pluie ni à l'humidité.

Thank you for purchasing this JVC product.
Before you begin operating this unit, please read the instructions carefully to be sure you get the best possible performance.
If you have any question, consult your JVC dealer.

Tous nos compliments pour vous être procuré cet appareil JVC.
Pour que vous puissiez obtenir les meilleures performances possibles, nous vous recommandons de lire attentivement la présente notice d'emploi avant de commencer à utiliser votre nouvel appareil.
En cas de question, consultez votre revendeur JVC.

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IMPORTANT

1. Installation
- Select a place which is level, dry and neither too hot nor too cold (between –5°C and 40°C/23°F and 104°F).
- Leave space between the rear of the amplifier and the wall. Good ventilation is needed, especially when the amplifier is driven at high output power. Also, leave space above the top of the amplifier for the same reason when stacking components.
- Do not allow a carpet, etc., to block the ventilation holes.
- Do not set it in a place subject to vibrations.

2. Power cord
- Check that the amplifier is set for your local supply voltage and frequency. If not consult the dealer from whom you bought it.
- When unplugging from the wall outlet, always pull the plug, not the power cord.

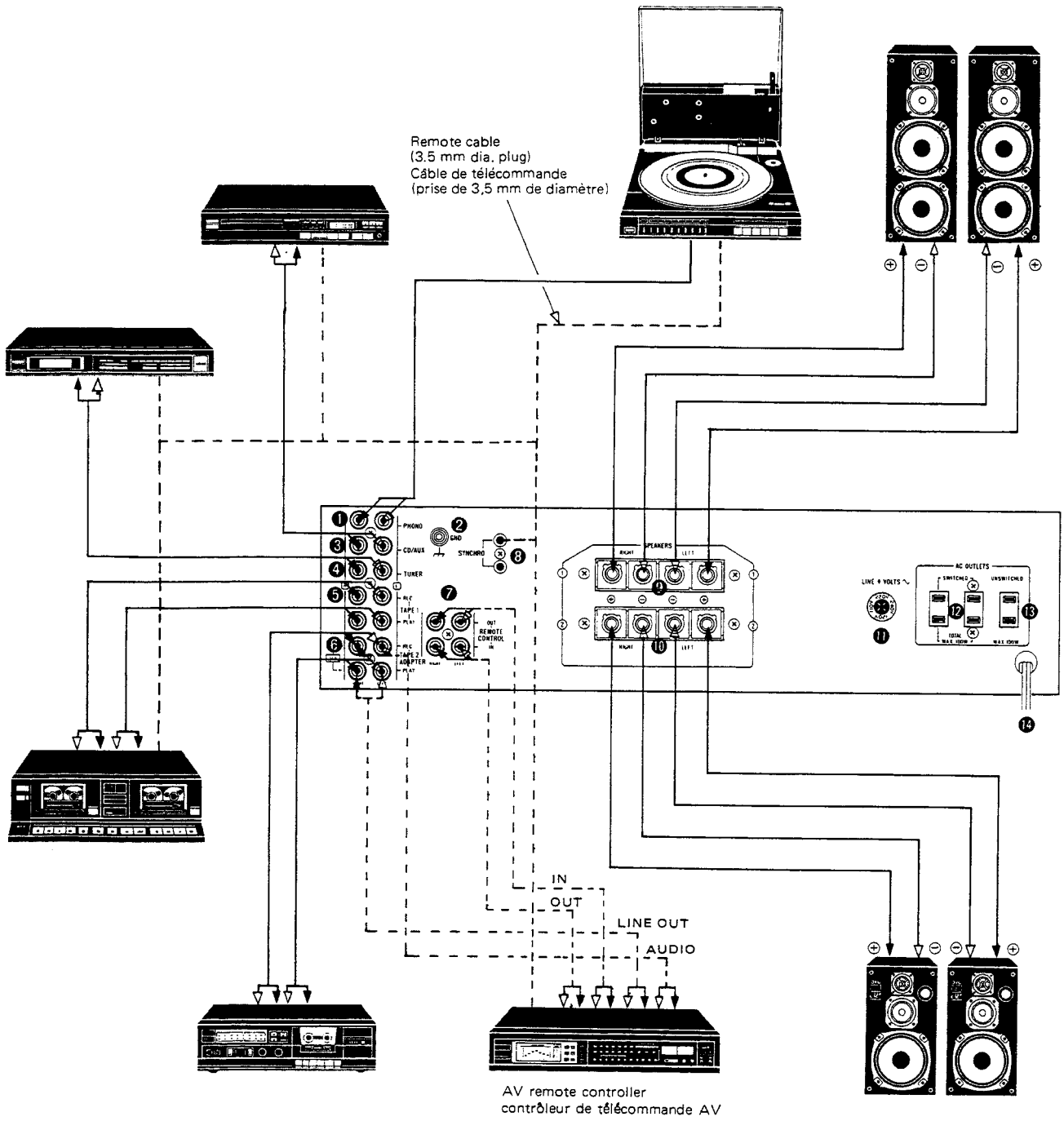
3. Malfunctions, etc.
- There are no user serviceable parts inside. If anything goes wrong, unplug the power cord and consult your dealer.
- Do not insert any metallic object inside the amplifier.
- Do not allow water to get inside the amplifier.

IMPORTANT

1. Installation
- Choisir un endroit plan, sec et ni trop chaud ni trop froid (entre –5°C et 40°C).
- Laisser un espace entre l'arrière de l'amplificateur et le mur. Une bonne aération est nécessaire, en particulier quand l'amplificateur est entraîné par un haute puissance de sortie. Laisser aussi un espace au-dessus de l'amplificateur pour la même raison quand vous voulez empiler des éléments.
- Ne pas obstruer les orifices d'aération avec un tapis etc.
- Ne pas placer l'appareil à un endroit sujet à des vibrations.

2. Cordon d'alimentation
- Vérifier que l'amplificateur est bien réglé sur votre tension secteur. S'il ne l'est pas, consulter le revendeur chez qui vous vous l'êtes procuré.
- Lors du débranchement de l'appareil, tirer toujours sur la prise et non sur le cordon.

3. Mauvais fonctionnements etc.
- Il n'y a aucune pièce à régler par l'utilisateur à l'intérieur. Si vous avez un problème, débrancher le cordon d'alimentation et consulter votre revendeur.
- Ne pas insérer d'objet métallique dans l'amplificateur.
- Ne pas laisser pénétrer d'eau dans l'amplificateur.


Remote cable
(3.5 mm dia. plug)
Câble de télécommande
(prise de 3,5 mm de diamètre)
PHONO
CD/AUX
TUNER
TAPE 1
TAPE 2 ADAPTER
GND
SYNCHRO
REMOTE CONTROL
SPEAKERS
AC OUTLETS
SWITCHED
UNSWITCHED
IN
OUT
LINE OUT
AUDIO
AV remote controller
contrôleur de télécommande AV

CONNECTION DIAGRAM

❶ PHONO terminals
❷ GND terminal
If your turntable has a ground lead, connect it to the GND terminal.
❸ CD/AUX terminals
❹ TUNER terminals
❺ TAPE 1 terminals
Note:
- **If a cassette deck installed with SYNCHRO terminals is used, connect it to these terminals.**

❻ TAPE 2 ADAPTER terminals
With the AX-44BK, AX-66BK, these terminals can also be used for connecting an S.E.A. graphic equalizer.
Notes:
- **If your tape deck is of the three-head type, recording monitoring can be made possible by connecting it to these terminals.**
- **Do not connect the remote cable to the tape deck which is connected to the TAPE 2 ADAPTER terminals.**

❼ REMOTE CONTROL terminals
Remove the U-shaped plugs of these terminals.
It is possible to adjust the volume from a distance by connecting the AV remote controller to these terminals.

Note:
- **Do not remove the U-shaped plugs, unless the connection of another unit is required. Without these plugs, no sound is output from the main unit.**

❽ SYNCHRO terminals
❾ SPEAKERS 1 terminals
❿ SPEAKERS 2 terminals
⓫ AC line voltage selector (LINE VOLTS)
(Not provided on units for U.S.A., Canada). When this equipment is used in an area where the supply voltage is different from the preset voltage, reset the voltage selector to the correct position.
⓬ SWITCHED AC OUTLETS
⓭ UNSWITCHED AC OUTLET
⓮ Power cord

Notes:
1. **Connect source components with left and right channels connected correctly. Reversed channels may degrade the stereo effect.**
2. **Connect speakers with correct polarity: (+) to (+) or (–) to (–). Reversed polarity may degrade the stereo effect.**
3. **Switch the power off when connecting any component.**
4. **Connect plugs or wires firmly. Poor contact may result in hum.**
5. **Use speakers with the correct impedance. This amplifier is for use with an impedance from 8 to 16 ohms.**
6. **How to connect speakers:**
Unscrew the knurled knobs and insert stripped wire ends. Screw the knobs back firmly and the electrical connection will be sufficient.
7. **Do not connect equipment requiring more than the rated power to the AC outlets on the rear panel.**
8. **The SWITCHED AC outlets are switched off when the front panel power button is switched off.**
9. **The UNSWITCHED AC outlet is not switched off when the front panel power button is switched off.**

SCHEMA DE RACCORDEMENTS

❶ Bornes de platine tourne-disque (PHONO)
❷ Borne de mise à la terre (GND)
Si votre platine tourne-disque a un câble de mise à la terre séparé, le raccorder à cette borne.
❸ Bornes de disque audionumérique (CD/AUX)
❹ Bornes de syntoniseur (TUNER)
❺ Bornes de platine d'enregistrement (TAPE 1)
Remarque:
- **Si on utilise une platine d'enregistrement equipée de bornes de synchronisation (SYNCHRO), connecter la platine à ces bornes.**

❻ Bornes pour platine d'enregistrement 2 (TAPE 2 ADAPTER)
Avec le AX-44BK, AX-66BK, ces bornes peuvent aussi être utilisées pour le raccordement d'un égaliseur graphique S.E.A.
Remarques:
- **Si on utilise une platine d'enregistrement à trois têtes, il est possible de faire un contrôle auditif de l'enregistrement en connectant la platine à ces bornes.**
- **Ne pas connecter le câble de télécommande à la platine d'enregistrement qui est connectée aux bornes TAPE 2 ADAPTER.**

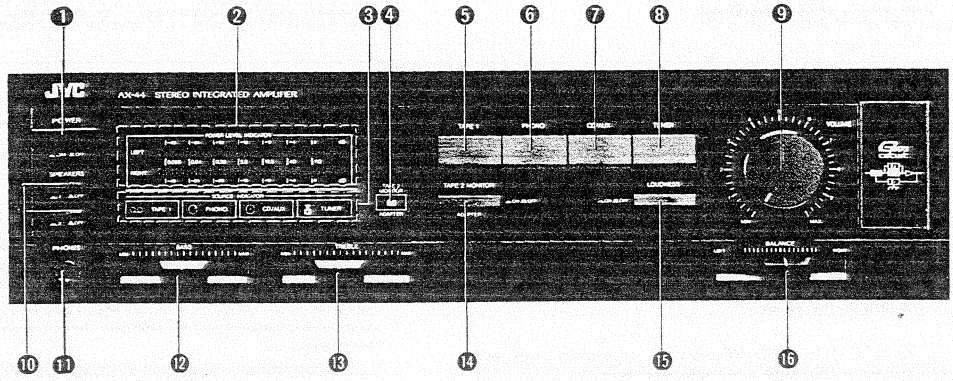
❼ Bornes de télécommande (REMOTE CONTROL)
Retirer de ces bornes les cavaliers en forme de U.
Il est possible de régler le volume à distance en connectant le contrôleur de télécommande AV (audio–vidéo) à ces bornes.

Remarque:
- **Ne retirer les cavaliers en forme de U que dans le cas où il est nécessaire de connecter ces bornes à un autre appareil. Lorsque ces cavaliers sont retirés, aucun son n'est délivré par l'amplificateur.**

❽ Bornes de synchronisation (SYNCHRO)
❾ Bornes de haut-parleurs 1 (SPEAKERS 1)
❿ Bornes de haut-parleurs 2 (SPEAKERS 2)
⓫ Sélecteur de tension de ligne CA (LINE VOLTS)
(Non prévu sur les appareils destinés aux Etats-Unis, au Canada).
Quand cet appareil est utilisé dans une région où la tension secteur est différente de celle qui est préréglée, replacer le sélecteur de tension sur la position correcte.
⓬ Prises CA commutées (SWITCHED AC OUTLETS)
⓭ Prise CA non commutée (UNSWITCHED AC OUTLET)
⓮ Cordon d'alimentation

Remarques:
1. **Raccorder les éléments de source en faisant attention de bien raccorder les canaux gauche et droit. Des canaux inversés risquent de dégrader l'effet stéréo.**
2. **Lors du raccordement des haut-parleurs, respecter la polarité, (+) sur (+) et (–) sur (–). Une polarité inversée risque de dégrader l'effet stéréo.**
3. **Mettre l'appareil hors tension lors du raccordement d'un appareil quelconque.**
4. **Raccorder à fond les prises et câbles. Un mauvais contact risque de provoquer des ronflements.**
5. **Utiliser des haut-parleurs ayant une impédance correcte. L'impédance nominale de cet amplificateur est de 8 à 16 ohms.**
6. **Raccordement des haut-parleurs:**
Desserrer les boutons molletés et insérer les extrémités dénudées des câbles. Resserer les boutons et le raccordement électrique sera fait.
7. **Ne pas raccorder d'appareil nécessitant plus d'alimentation que celle qui est spécifiée aux prises CA du panneau arrière.**
8. **Les prises SWITCHED AC sont mises hors circuit quand la touche d'alimentation du panneau frontal est mis sur la position d'arrêt.**
9. **La prise UNSWITCHED AC n'est pas mise hors circuit quand la touche d'alimentation du panneau frontal est mis sur la position d'arrêt.**

AX-44BK



FRONT PANEL

❶ POWER
ON (▂): Press the button to turn the power on, and the TUNER indicator (see ❸) lights. The protection circuit functions for a few seconds after the indicator lights and during this period no sound is produced from the speakers.
OFF (▃): Press the button again to turn the power off.

❷ POWER LEVEL INDICATOR
LED lights according to the output.

❸ SOURCE INDICATOR
The indicator corresponding to the source select button pressed lights.

❹ TAPE 2 MONITOR/ADAPTER indicator
This indicator lights, when the TAPE 2 MONITOR/ADAPTER button is pressed.

❺ TAPE 1
Press to listen to a tape deck connected to the TAPE 1 terminals.

❻ PHONO
Press to listen to records played by a turn-table connected to the PHONO terminals.

❼ CD/AUX
Press to listen to the source connected to the CD/AUX terminals.

❽ TUNER
Press to listen to radio broadcasts by a tuner connected to the TUNER terminals.

❾ VOLUME
Controls the volume of the speakers and headphones.

❿ SPEAKERS
Press to button the speakers connected to the SPEAKERS 1 or 2 terminals on (▂) and off (▃).

Note:
- **When speakers are connected to only one system of the SPEAKERS terminals, press only the SPEAKERS button of the system connected; if both buttons are pressed, sound will not be heard from either speaker system. When two pairs of speakers are connected and either or both SPEAKERS buttons is/are pressed, sound will be heard from either or both speaker system(s).**

⓫ PHONES (Headphones jack)
Plug stereo headphones into this jack for private listening.

⓬ BASS
Slide to the right to boost bass response, to the left to decrease it.

⓭ TREBLE
Slide to the right to boost treble response, to the left to decrease it.

⓮ TAPE 2 MONITOR/ADAPTER
Press to listen to a tapedeck connected to the TAPE 2 ADAPTER terminals.

⓯ LOUDNESS
Press this button ON (▂) to compensate for the ear's different sensitivity to sound at low volumes.

⓰ BALANCE
Balances the volume between the left and right speakers. Usually set it to the center click position.

PANNEAU AVANT

❶ **Interrupteur d'alimentation (POWER)**
Position ON (▂): Appuyer sur cet interrupteur pour mettre l'appareil sous tension, l'indicateur TUNER (voir ❸) s'allume. Le circuit de protection entre en action pendant quelques secondes après que l'indicateur se soit allumé et durant cette période aucun son n'est délivré par les enceintes.
Position OFF (▃): Appuyer une nouvelle fois sur cet interrupteur pour mettre l'appareil hors tension.

❷ **Indicateur de niveau d'alimentation (POWER LEVEL INDICATOR)**
LED s'allume suivant le débit.

❸ **Indicateurs de source (SOURCE INDICATOR)**
L'indicateur correspondant au sélecteur de source enfoncé s'allume.

❹ **Indicateur de platine d'enregistrement 2 (TAPE 2 MONITOR/ADAPTER)**
Cet indicateur s'allume lorsque la touche TAPE 2 MONITOR/ADAPTER est enfoncée.

❺ **Platine d'enregistrement 1 (TAPE 1)**
L'enfoncer pour écouter la platine d'enregistrement raccordée aux bornes TAPE 1.

❻ **Platine tourne-disque (PHONO)**
L'enfoncer pour écouter des disques joués par une platine raccordée aux bornes PHONO.

❼ **Commutateur de lecteur de disque audionumérique (CD/AUX)**
L'enfoncer pour écouter la source raccordée aux bornes CD/AUX.

❽ **Syntoniseur (TUNER)**
L'enfoncer pour écouter des émissions radio sur un syntoniseur (TUNER) raccordé aux bornes TUNER.

❾ **Commande de volume (VOLUME)**
Pour contrôler le volume des haut-parleurs et du casque d'écoute.

❿ **Haut-parleurs (SPEAKERS)**
Les enfoncer pour commuter en (▂) et hors (▃) circuit les bornes SPEAKERS 1 ou 2.

Remarque:
- **Quand les haut-parleurs ne sont raccordés qu'à une paire de bornes SPEAKERS, n'enfoncer que la touche du système raccordé, si les deux commutateurs sont enfoncés, le son ne sera audible d'aucun système. Quand les deux paires sont raccordées et que l'un des la touche SPEAKERS ou les deux sont enfoncés, le son sera audible soit d'un système de haut-parleurs, soit des deux.**

⓫ **Casque d'écoute (PHONES)**
Brancher un casque stéréo sur cette prise pour une écoute privée.

⓬ **Basses (BASS)**
La coulisser vers la droite pour suramplifier la réponse des basses et vers la gauche pour la diminuer.

⓭ **Aiguës (TREBLE)**
La coulisser vers la droite pour suramplifier la réponse des aiguës et vers la gauche pour la diminuer.

⓮ **Platine dénregistrement 2 (TAPE 2 MONITOR/ADAPTOR)**
L'enfoncer pour écouter la platine d'enregistrement raccordée aux bornes TAPE 2 ADAPTER

⓯ **Contour (LOUDNESS)**
Enfoncer ce commutateur (▂) pour compenser la sensibilité différente de l'oreille à de faibles volumes.

⓰ **Balance (BALANCE)**
Pour équilibrer le volume entre les haut-parleurs de gauche et de droite. La placer normalement sur sa position centrale à déclic.

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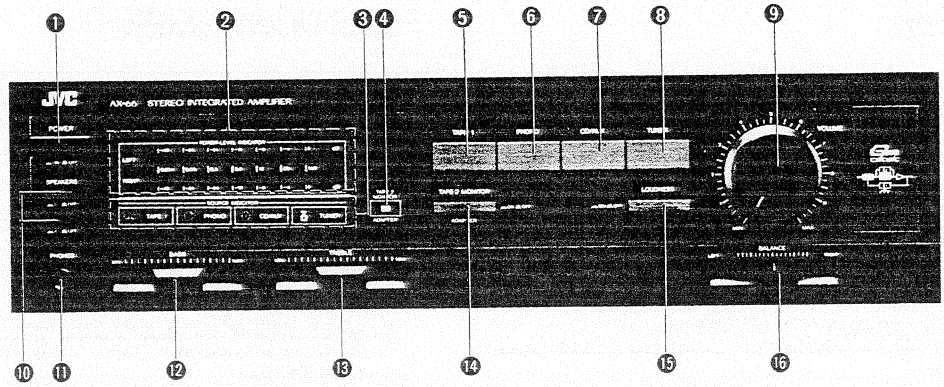

CONVENIENCE FEATURES USING SYNCHRO TERMINALS

Automatic Source Selection
If the attached remote cable is used to connect this unit to other components installed with synchro terminals, sources can be switched over with just one touch of this unit's source selector buttons and the corresponding component will start to play automatically. The source select button of the remote control unit or the appropriate component's activation button may also be used.
When switching over from one component to another, such as the cassette deck, turntable or CD player, the previous component will stop playing after about five seconds.

Synchronized Recording
Synchronized recording refers to the process whereby the cassette deck automatically commences recording, in synchronization with the CD player or turntable.
Set the cassette deck to REC/PAUSE mode according to the procedures in the instruction manual.
When synchronously recording with CD player, push the PLAY button on CD player.
The cassette deck enters the record mode the moment the CD player starts and synchronized recording commences.
Synchronized recording stops automatically when the CD player stops playing.

To cancel synchronized recording, push the STOP button of CD player, turntable or the cassette deck.

Notes:
- **When the REC/PAUSE mode is set by pushing PAUSE after depressing the REC and PLAY buttons simultaneously, synchronized recording is not possible. For details, refer to your cassette deck's instruction manual.**
- **Abnormal operation will result if the power supply of one of the components is interrupted halfway. If this happens, push the activation button again to restart.**
- **Ensure that the SYNCHRO terminal of each component is connected with the attached remote cable. Be sure to read the instruction manual for each component very carefully.**
- **The source is locked to CD/AUX or PHONO position during synchronized recording to avoid accidental stops or changing to another source. To change the source, first cancel the synchronized recording.**

Caution:
When a component (such as a cassette deck) is connected to the TAPE 2 ADAPTER terminals of the amplifier, do not connect the SYNCHRO terminals of the amplifier, do not connect the SYNCHRO terminals of such component to any other component with a remote cable.

EQUIPEMENTS PARALLÈLES AVEC BORNES SYNCHRO

Sélection de Source Automatique
Si le câble de commande à distance fourni est employé pour raccorder d'autres éléments dotés de bornes de SYNCHRO, les sources peuvent être changées avec un seul appui sur le sélecteur de source de cette unité et l'élément correspondant commencera automatiquement à fonctionner. On peut également avoir recours à la touche de sélection de source sur la commande à distance ou la touche appropriée sur l'élément concerné.
Combinaison de cet appareil à d'autres élément dotés de bornes de synchronisation pour appel direct.
Lors de la commutation d'un élément à un autre, (platine à cassette tourne-disques, ou platine CD par exemple) l'élément commuté s'arrête au bout de cinq seconds environ.

Enregistrement synchronisé
L'enregistrement synchronisé est un procédé qui permet de commencer automatiquement un enregistrement sur cassette en synchronisation avec la platine CD ou tournedisques.
Mettre la platine à cassettes en mode d'enregistrement/pause (REC/PAUSE) en procédant comme indiqué dans le manuel d'utilisation. Pour l'enregistrement synchronisé d'un DC, appuyer sur la touche lecture (PLAY) de la platine CD.
La platine à cassette se met automatiquement en mode d'enregistrement au moment où la platine CD commence la lecture, et l'enregistrement synchronisé se met en marche.
L'enregistrement synchronisé est automatiquement arrêté dès que la platine CD arrête la lecture.

Pour annuler l'enregistrement synchronisé enfoncer la touch d'arrêt (STOP) de la platine CD ou tournedisques de la platine à cassettes.

Remarques:
- **Si l'on établit le mode d'enregistrement/pause (REC/PAUSE) en appuyant sur la touche de pause (PAUSE) après avoir enfoncé simultanément les touches enregistrement (REC) et lecture (PALY), l'enregistrement synchronisé n'est pas possible. Pour plus de précisions, se reporter au manuel d'utilisation de la platine à cassette.**
- **Le fonctionnement sera anormal si l'alimentation de l'un des éléments du système d'appel direct est interrompue. Il faut alors appuyer à nouveau sur la touche d'activation pour remettre l'élément en marche.**
- **S'assurer que la borne SYNCHRO de chaque élément est raccordé avec le câble de téléconnexion qui a été fourni. Lire attentivement le manuel d'utilisation de chaque élément de la chaine.**
- **Pendant l'enregistrement synchrone, la source est verrouillée sur la position CD/AUX ou PHONO pour éviter des arrêts accidentels ou des changements de sources. Pour changer de source, annulez d'abord l'enregistrement synchrone.**

Attention:
Lorsqu'un élément (tel une platine à cassette) est connecté aux prises TAPE 2 ADAPTER, ne pas connecter les bornes de synchronisation (SYNCHRO) de l'amplificateur, ne pas connecter les bornes de synchronisation (SYNCHRO) de l'élément à un autre élément à l'aide du câble de télécommande.

OPERATION

Before operation, always be sure to set VOLUME at minimum.
When the volume is increased after selecting a source position with no equipment connected to the input terminal, other connected devices (such as speakers) may be adversely affected by external noises and inductive hum.

Listening to broadcasts
1. Connect a tuner to the TUNER terminals on the rear panel.
2. Press the POWER button on.
3. Press the TUNER button and make sure that the TAPE 2 MONITOR/ADAPTER buttons are set to off.
4. Select the speaker system with the SPEAKERS switches.
5. Operate the tuner according to its instruction manual.
6. Adjust the VOLUME, LOUDNESS, BALANCE and TONE BASS/TREBLE controls.

Listening to records
1. Connect a turntable to the PHONO terminals on the rear panel.
2. Press the POWER button on.
3. Press the PHONO button and make sure that the TAPE 2 MONITOR/ADAPTER button is set off.
4. Select the speaker system with the SPEAKERS switches.
5. Operate the turntable according to its instruction manual.
6. Adjust the VOLUME, LOUDNESS, BALANCE and TONE as required.

Note: Use a turntable with an MM cartridge.

Listening to tapes
To listen to the tape deck connected to the TAPE 1 or TAPE 2 ADAPTER terminals.
1. Connect a tape deck to the PLAY terminals of the TAPE 1 or TAPE 2 ADAPTER.
2. Press the POWER button on.
3. Press the TAPE 1 button to play back the TAPE 1 deck. For playback of the TAPE 2 deck, press the TAPE 2 MONITOR/ADAPTER button to ON (▬).
4. Select the speaker system with the SPEAKERS switches.
5. Operate the tape deck for playback according to its instruction manual.
6. Adjust the playback sound controls as required.

Notes:
- **When the TAPE 1 and TAPE 2 MONITOR/ADAPTER buttons are pressed simultaneously, the TAPE 2 deck starts playing first and the TAPE 1 deck next. However, this sequence can be switched by releasing the TAPE 2 MONITOR/ADAPTER button and pressing it again.**
- **Do not place the tape deck directly on the amplifier, because it may cause the amplifier to malfunction.**

Using stereo headphones
Stereo headphones can be plugged into the front panel jack. Plugging headphones into the PHONES jack does not switch off the speaker sound.

Recording tapes
To record from disc sources onto a tape deck.
1. Connect a tape deck to the REC terminals of the TAPE 1 or TAPE 2 ADAPTER terminals.
2. Press the POWER button on.
3. Select a speaker system if you wish to hear the sound while recording.
4. Press the PHONO button.
5. Operate the turntable.
6. Operate the tape deck for recording.

To record from other sources (TUNER, CD/AUX)
Press the TUNER, or CD/AUX button to record radio broadcasts, or the source connected to the CD/AUX terminals.
All other operations are identical to when recording from disc source.

FONCTIONNEMENT

Avant le fonctionnement s'assurer que le VOLUME est au minimum.
Si l'on augmente le volume après avoir sélectionné une source dont la borne d'entrée n'est pas raccordée à un appareil quelconque, d'autres unités branchées (comme les enceintes) seront affectées par des bruits externes et un ronflement inductif.

Ecoute d'émissions
1. Raccorder un syntoniseur aux bornes TUNER du panneau arrière.
2. Enfoncer la touche POWER.
3. Appuyer sur la touche TUNER et s'assurer que les touches TAPE 2 MONITOR/ADAPTOR sont relâchées.
4. Sélectionner le système de haut-parleurs avec les sélecteurs SPEAKERS.
5. Faire fonctionner le syntoniseur selon les instructions de son manuel.
6. Régler les commandes VOLUME, LOUDNESS, BALANCE et TONE BASS/TREBLE.

Ecoute de disques
1. Raccorder une platine tourne-disque aux bornes PHONO du panneau arrière.
2. Enfoncer la touche POWER.
3. Appuyer sur la touche PHONO et s'assurer que la touche TAPE 2 MONITOR/ADAPTER est relâchée.
4. Sélectionner le système de haut-parleurs avec les sélecteurs SPEAKERS.
5. Faire fonctionner le syntoniseur selon les instructions de son manuel.
6. Régler les commandes VOLUME, LOUDNESS, BALANCE et TONE.

Remarque: Utiliser une platine avec une cellule MM

Ecoute de bandes
Pour écouter la platine d'enregistrement connectée aux bornes TAPE 1 ou TAPE 2 ADAPTER.
1. Connecter une platine d'enregistrement aux bornes pour lecture (PLAY) de TAPE 1 ou de TAPE 2 ADAPTER.
2. Enfoncer la touche POWER.
3. Appuyer sur la touche TAPE 1 pour écouter la platine d'enregistrement reliée aux bornes TAPE 1. Pour l'écoute de la platine d'enregistrement reliée aux bornes TAPE 2, mettre la touche TAPE 2 MONITOR/ADAPTER sur la position ON (▬).
4. Sélectionner le système de haut-parleurs avec les sélecteurs SPEAKERS.
5. Faire fonctionner la platine d'enregistrement en lecture selon les instructions de son manuel.
6. Régler les commandes pour obtenir un son optimum.

Remarques:
- **Lorsqu'on enfonce simultanément les touches TAPE 1 et TAPE 2 MONITOR/ADAPTER, la lecture commence d'abord sur la platine connectée aux bornes TAPE 2 et se poursuit sur la platine connectée aux bornes TAPE 1. Il est cependant possible d'inverser cette séquence en libérant la touche TAPE 2 MONITOR/ADAPTER et en la réenfonçant.**
- **Ne pas placer la platine d'enregistrement directement sur l'amplificateur car ceci risque de provoquer un mauvais fonctionnement de l'amplificateur.**

Utilisation d'un casque d'écoute stéréo
Un casque d'écoute stéréo peut être branché sur la prise du panneau avant. Le brancher sur cette prise ne coupe pas le son des haut-parleurs.

Enregistrement de bandes
Pour enregistrer à partir de disques sur une platine.
1. Connecter une platine d'enregistrement aux bornes pour enregistrement (REC) de TAPE 1 ou de TAPE 2 ADAPTER.
2. Enfoncer la touche POWER.
3. Sélectionner le système de haut-parleurs si vous voulez écouter le son tout en enregistrant.
4. Enfoncer la touche PHONO.
5. Faire fonctionner la platine tourne-disque.
6. Faire fonctionner la platine d'enregistrement en enregistrement.

Enregistrement à partir d'autres sources (TUNER, CD/AUX)
Enfoncer le commutateur TUNER, ou CD/AUX pour enregistrer des émissions radio ou la source raccordée aux bornes CD/AUX.
Tous les autres fonctionnements sont identiques à ceux de l'enregistrement à partir de disques.

Tape dubbing

Dubbing from the TAPE 1 to TAPE 2 is carried out as follows:

1. Press the TAPE 1 button.
2. Play back the TAPE 1 deck.
3. Record the sound from the TAPE 1 deck.

Dubbing from the TAPE 2 to TAPE 1 is carried out as follows:

1. Press the TAPE 2 button to ON (▬).
2. Play back the TAPE 2 deck.
3. Record the sound from the TAPE 2 deck.

Notes:

- **You can also monitor the sound being recorded with headphones.**
- **The sound you hear from the speakers or headphones is the source sound, not that being recorded on the tape.**
- **With the TAPE 1 button pressed on, you can not record the sound from other sources, such as PHONO, TUNER, CD/AUX, and TAPE 2 ADAPTER.**
- **The VOLUME control of this amplifier has no effect on the recording level. Adjust the recording level with the controls on the tape deck.**
- **While playing back a tape on the cassette deck (to which the TAPE 2 ADAPTER terminals of this unit are connected), you can not record the sources from other components.**

How to operate the monitor while recording on the tape deck

1. Connect the 3-head tape deck to the TAPE 2 ADAPTER terminals.
2. Make sure to connect the signal cords to the PLAY and REC terminals, and remove the remote cable connected to the tape deck.
3. Select a source from which you want to record by depressing the SOURCE SELECTOR button on this unit.
4. Operate the tape deck for recording as described in its operating manual.
5. By playing the source component, you can record on the tape deck.
6. While recording on the tape deck, the recorded sound can be heard by depressing the TAPE 2 MONITOR/ADAPTER button on this unit or that of the remote control unit.

Use of S.E.A. Graphic Equalizer

The S.E.A. Graphic Equalizer is JVC's exclusive tone control system. By allowing you to boost or lower the response of finely divided sections of the frequency spectrum independently, the S.E.A. gives you much greater control over the sound quality of your stereo system. With an optionally available S.E.A. Graphic Equalizer, you can tailor the sound to your own taste for different types of music or to compensate for the particular acoustic characteristics of your audio components and listening room.

The TAPE 2 ADAPTER terminals of the AX-44BK, AX-66BK can be used for connecting the S.E.A. Graphic Equalizer.

Copie de bandes

Pour effectuer une copie de la platine d'enregistrement reliée aux bornes TAPE 1 vers la platine d'enregistrement reliée aux bornes TAPE 2:

1. Enfoncer la touche TAPE 1.
2. Lire une cassette sur la platine reliée aux bornes TAPE 1.
3. Enregistrer le son sur la platine reliée aux bornes TAPE 1.

Pour effectuer une copie de la platine d'enregistrement reliée aux bornes TAPE 2 vers la platine d'enregistrement reliée aux bornes TAPE 1:

1. Mettre la touche TAPE 2 sur la position ON (▬).
2. Lire une cassette sur la platine reliée aux bornes TAPE 2.
3. Enregistrer le son sur la platine reliée aux bornes TAPE 2.

Remarques:

- **Vous pouvez aussi contrôler le son enregistré avec le casque d'écoute.**
- **Le son que vous entendez des haut-parleurs ou du casque est le son de la source et non pas le son enregistré sur la bande.**
- **Lorsque la touche TAPE 1 est enfoncée, il n'est pas possible d'enregistrer à partir d'autres sources reliées aux bornes PHONO, TUNER, CD/AUX, et TAPE 2 ADAPTER.**
- **La commande VOLUME de cet amplificateur n'a pas d'effet sur le niveau d'enregistrement. Régler celui-ci avec les commandes de la platine.**
- **Lors de la lecture d'une bande sur le magnétocassette (auquel les bornes TAPE 2 ADAPTER de cet appareil sont connectées), il est impossible d'enregistrer les signaux d'entrée en provenance d'autres éléments.**

Comment utiliser le controle auditif lors d'un enregistrement sur la platine d'enregistrement

1. Connecter la platine d'enregistrement à 3 têtes aux bornes TAPE 2 ADAPTER.
2. Veiller à bien connecter les cordons aux bornes pour lecture (PLAY) et pour enregistrement (REC) et retirer le câble de télécommande connecté à la platine d'enregistrement.
3. Sélectionner l'élément d'entrée que l'on désire enregistrer en enfonçant une touche du sélecteur d'entrée (SOURCE SELECTOR) de cet appareil.
4. Faire fonctionner l'élément d'entrée comme décrit dans son mode d'emploi.
5. Il est alors possible d'effectuer l'enregistrement sur la platine d'enregistrement tout en écoutant l'élément d'entrée.
6. Tout en enregistrant sur la platine d'enregistrement, il est possible d'écouter le son enregistré en enfonçant la touche TAPE 2 MONITOR/ADAPTER de cet appareil ou celle de l'unité de télécommande.

Utilisation de l'égaliseur graphique S.E.A.

Les égaliseurs graphiques S.E.A. sont des systèmes de commande de la tonalité exclusifs de JVC. Ils vous permettent de suramplifier ou de diminuer la réponse des différentes sections du spectre des fréquences indépendamment et par conséquent vous offrent un contrôle plus important sur la tonalité de votre chaîne stéréo. Avec un égaliseur graphique S.E.A. disponible en option, vous pouvez obtenir un son sur mesure pour différents types de musique ou compenser la réponse acoustique de vos appareils audio ou de la pièce d'écoute. Les bornes TAPE 2 ADAPTER du AX-44BK, AX-66BK peuvent être utilisées pour le raccordement d'un égaliseur graphique S.E.A.

TROUBLESHOOTING

What appears to be a malfunction may not always be serious
Make sure first. . .
No sound and no light
Is the AC plug connected properly?
Are the connections made correctly?
No sound from speakers
Are speaker cords connected?
Are the SPEAKERS buttons correctly set?
Is the VOLUME control properly set?
Is your source component correctly set?
Sound from one speaker only
Are speaker cords connected correctly?
Is BALANCE control set to one extreme or the other?
Loud hum during record playing
Is turntable grounded?
Try to change cord path.
Howling noise during record playing
Is turntable too close to a speaker?

EN CAS DE DIFFICULTE

Ce qui semble au départ être un mauvais fonctionnement n'est pas toujours très sérieux.
Assurez-vous d'abord que . . .
Aucun son et pas d'éclairement
La prise CA est-elle correctement branchée?
Les raccordements sont-ils bien faits?
Pas de son des haut-parleurs
Les câbles des haut-parleurs sont-ils raccordés?
Les sélecteurs SPEAKERS sont-ils réglés correctement?
La commande VOLUME est-elle réglée correctement?
Vos appareils de source sont-ils correctement installés?
Le son ne provient que d'un seul haut-parleur
Les câbles de haut-parleurs sont-ils raccordés correctement?
La commande BALANCE est-elle tournée à fond dans un sens ou dans l'autre?
Bourdonnement sourd pendant la lecture de disques
La platine est-elle mise à la terre?
Essayer de changer l'emplacement du cordon.
Hurlement pendant la lecture de disques
La platine tourne-disque est-elle trop près des haut-parleurs?

SPECIFICATIONS

AX-44BK

Output Power	:	**100 watts per channel min. RMS, both channels driven into 8 ohms from 20 Hz to 20 kHz, with no more than 0.03% total harmonic distortion. (U.S.A. and Canada only)**
		110 watts per channel, min. RMS, into 8 ohms at 1 kHz with no more than 0.7% total harmonic distortion.
Total harmonic distortion	:	0.008% at 100 watts (1 kHz, 8 ohms)
Power band width	:	10 Hz – 30 kHz ('66 IHF 0.2%, 8 ohms both channels driven)
Frequency Response	:	10 Hz – 60 kHz, +0.5, –3 dB (8 ohms)
Input terminals		
Input sensitivity/ impedance (1 kHz)		
PHONO	:	2.5 mV/47 kohms
TUNER CD/AUX TAPE-1 TAPE 2	:	160 mV/47 kohms
Signal-to-noise ratio		
PHONO	:	70 dB ('66 IHF)
TUNER CD/AUX TAPE-1, 2	:	97 dB ('66 IHF)
PHONO	:	78 dB ('78 IHF, Rec Out)
TUNER CD/AUX TAPE-1, 2	:	74 dB ('78 IHF, Speaker Out)
Tone controls	:	TREBLE: +8 ±1 dB –8 ± 1 dB (at 10 kHz) BASS: +8 ±1 dB –8 ± 1 dB (at 100 Hz)
Loudness controls	:	+6 dB (at 100 Hz)
(Volume Control at –30 dB position)	:	+4 dB (at 10 kHz)
PHONO RIAA deviation	:	±0.5 dB (20 Hz – 20 kHz)
GENERAL		
Power source	:	See back page
Dimensions and weight	:	

CARACTERISTIQUES TECHNIQUES

AX-44BK

Puissance de sortie	:	100 watts par canal, min. RMS, les deux canaux entraînés à 8 ohms de 20 Hz à 20 kHz, avec moins de 0,03% de distorsion harmonique totale. (Etats-Unis et Canada seulement)
		110 watts par canal, min. RMS, alimentés par 8 ohms à 1 kHz, avec moins de 0,7% de distorsion harmonique totalle.
Distorsion harmonique totale	:	0,008% à 100 watts (1 KHz, 8 ohms)
Largeur de gamme de puissance	:	10 Hz – 30 kHz ('66 IHF 0,2%, 8 ohms, les deux canaux entraînés)
Réponse en fréquence	:	10 Hz – 60 kHz, +0,5, –3 dB (8 ohms)
Bornes d'entrée		
Sensibilité d'entrée / impédance (1 kHz)		
PHONO	:	2,5 mV/47 kohms
TUNER CD/AUX TAPE 1 TAPE 2	:	160 mV/47 kohms
Rapport signal/bruit		
PHONO	:	70 dB ('66 IHF)
TUNER CD/AUX TAPE 1, 2	:	97 dB ('66 IHF)
PHONO	:	78 dB ('78 IHF, sortie d'enregistrement)
TUNER CD/AUX TAPE 1, 2	:	74 dB ('78 IHF, sortie de haut-parleurs)
Commandes de tonalité	:	TREBLE: +8 ± 1 dB –8 ± 1 dB BASS: +8 ± 1 dB –8 ± 1 dB (à 100 Hz)
Commandes de contour	:	+6 dB (à 100 Hz) +6 dB (à 10 kHz)
(Commande de volume à –30 dB)		
Déviation PHONO RIAA	:	±0,5 dB (20 Hz – 20 kHz)
GENERALES		
Alimentation	:	Voir page arrière
Dimensions et poids	:	

Dimensions (cm)			Weight (kg/lbs)
Width	Height	Depth	
43.5 (17-3/16")	11.7 (4-5/8")	30.0 (11-7/8")	6.8/14.8

Design and specifications subject to change without notice.

Dimensions (cm)			Poids (kg)
Largeur	Hauteur	Profondeur	
43,5	11,7	30,0	6,8

Présentation et caractéristiques modifiables sans préavis.

AX-66BK

Output Power : **120 watts per channel min. RMS, both channels driven into 8 ohms from 20 Hz to 20 kHz, with no more than 0.03% total harmonic distortion. (U.S.A. and Canada only)**

120 watts per channel, min. RMS, into 8 ohms at 1 kHz with no more than0.007% total harmonic distortion.

130 watts per channel, min. RMS, into 8 ohms at 1 kHz with no more than 0.009% total harmonic distortion.

Total harmonic distortion : 0.007% at 120 watts (1 kHz 8 ohms)
0.009% at 130 watts (1 kHz, 8 ohms)

Power band width : 10 Hz – 30 kHz ('66 IHF 0.2%, 8 ohms both channels driven)

Frequency Response : 10 Hz – 60 kHz, +0.5, -3 dB (8 ohms)

Input terminals
Input sensitivity/ impedance (1 kHz)
PHONO : 2.5 mV/47 kohms
TUNER : 160 mV/47 kohms
CD/AUX
TAPE-1
TAPE 2 : 160 mV/45 kohms

Signal-to-noise ratio
PHONO : 70 dB ('66 IHF)
TUNER : 97 dB ('66 IHF)
CD/AUX
TAPE-1, 2
PHONO : 78 dB ('78 IHF, Rec Out)
TUNER : 74 dB ('78 IHF, Speaker Out)
CD/AUX
TAPE-1, 2

Tone controls : TREBLE: +8 ±1 dB
–8 ± 1 dB
(at 10 kHz)
BASS: +8 ±1 dB
–8 ± 1 dB
(at 100 Hz)

Loudness controls (Volume Control at –30 dB position) : +6 dB (at 100 Hz)
: +4 dB (at 10 kHz)

PHONO RIAA deviation : ±0,5 dB (20 Hz – 20 kHz)

GENERAL

Power source : See back page

Dimensions and weight :

Dimensions (cm)			Weight (kg/lbs)
Width	Height	Depth	
43.5 (17-3/16")	11.7 (4-5/8")	34.6 (13-5/8")	7.8/17.2

Design and specifications subject to change without notice.

AX-66BK

Puissance de sortie : 120 watts par canal, min. RMS, les deux canaux entraînés à 8 ohms de 20 Hz à 20 kHz, avec moins de 0,03% de distorsion harmonique totale. (Etats-Unis et Canada seulement)

120 watts par canal, min. RMS, alimentés par 8 ohms à 1 kHz, avec moins de 0,007% de distorsion harmonique totalle.

130 watts par canal, min. RMS, alimentés par 8 ohms à 1 kHz, avec moins de 0,009% de distorsion harmonique totalle.

Distorsion harmonique totale : 0,007% à 120 watts (1 kHz, 8 ohms)
0,009% à 130 watts (1 KHz, 8 ohms)

Largeur de gamme de puissance : 10 Hz – 30 kHz ('66 IHF 0,2%, 8 ohms, les deux canaux entraînés)

Réponse en fréquence : 10 Hz – 60 kHz, +0,5, –3 dB (8 ohms)

Bornes d'entrée
Sensibilité d'entrée/ impédance (1 kHz)
PHONO : 2,5 mV/47 kohms
TUNER : 160 mV/47 kohms
CD/AUX
TAPE 1
TAPE 2 : 160 mV/45 kohms

Rapport signal/bruit
PHONO : 70 dB ('66 IHF)
TUNER : 97 dB ('66 IHF)
CD/AUX
TAPE 1, 2
PHONO : 78 dB ('78 IHF, sortie d'enregistrement)
TUNER : 74 dB ('78 IHF, sortie de haut-parleurs)
CD/AUX
TAPE 1, 2

Commandes de tonalité : TREBLE: +8 ± 1 dB
–8 ± 1 dB
BASS: +8 ± 1 dB
–8 ± 1 dB
(à 100 Hz)

Commandes de contour : +6 dB (à 100 Hz)
+6 dB (à 10 kHz)
(Commande de volume à –30 dB)

Déviation PHONO RIAA : ± 0.5 dB (20 Hz – 20 kHz)

GENERALES

Alimentation : Voir page arrière

Dimensions et poids :

Dimensions (cm)			Poids (kg)
Largeur	Hauteur	Profondeur	
43,5	11,7	34,6	7,8

Présentation et caractéristiques modifiables sans préavis.

AX-44BK

POWER SPECIFICATIONS

Areas	Line Voltage & Frequency	Power Consumption
U.S.A.	AC 120 V ∿, 60 Hz	200 watts
Canada		340 watts, 435 VA
Other areas	AC 110/120/220/240 V ∿ Selectable, 50/60 Hz	200 watts

CARACTERISTIQUES D'ALIMENTATION

Pays	Tension de ligne et fréquence	Consommation
Etats-Unis	CA 120 V ∿, 60 Hz	200 watts
Canada		340 watts, 435 VA
Autres pays	CA 110/120/220/240 V ∿ commutable, 50/60 Hz	200 watts

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AX-66BK

POWER SPECIFICATIONS

Areas	Line Voltage & Frequency	Power Consumption
U.S.A.	AC 120 V ∿, 60 Hz	220 watts
Canada		370 watts, 470 VA

CARACTERISTIQUES D'ALIMENTATION

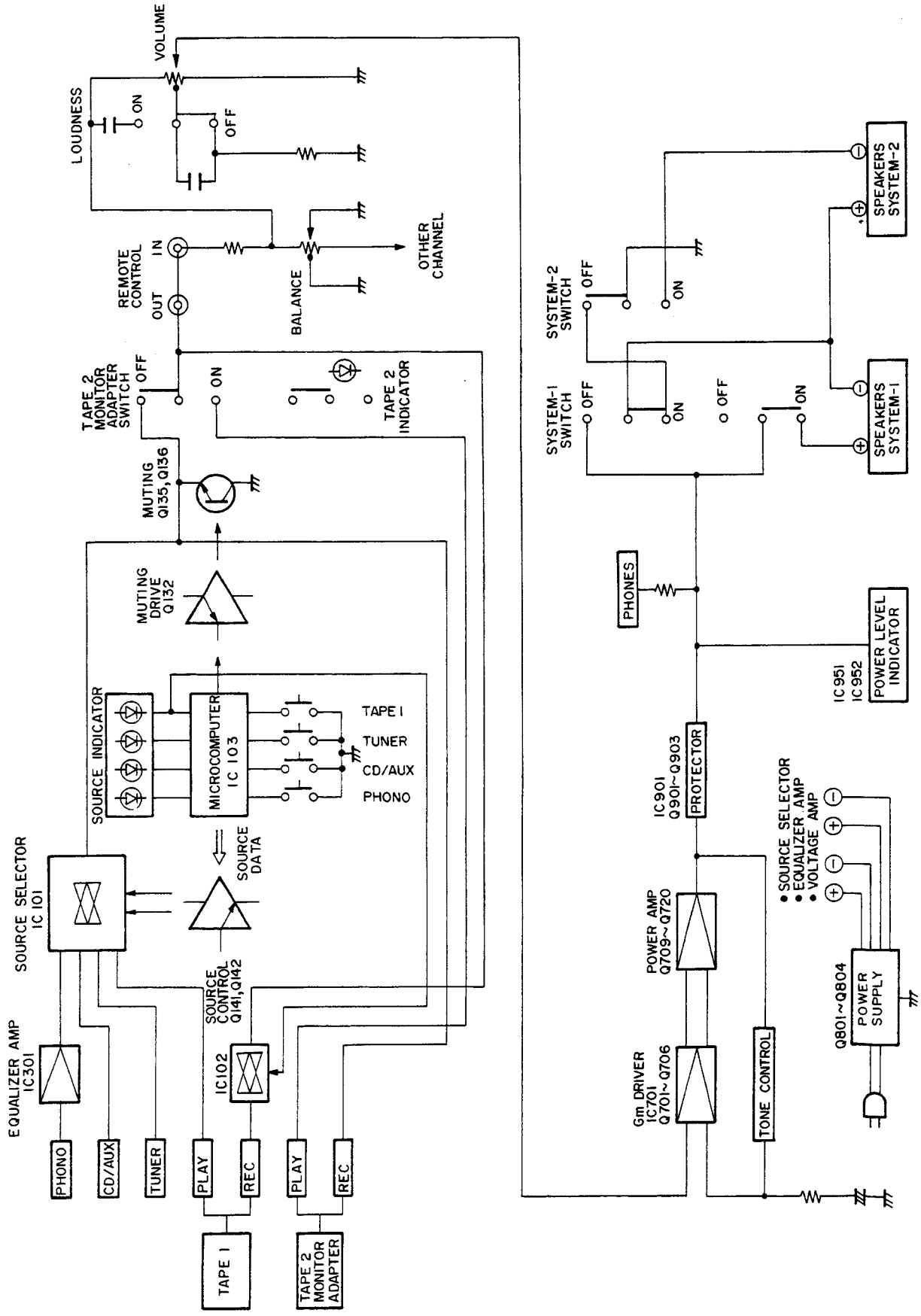
Pays	Tension de ligne et fréquence	Consommation
Etats-Unis	CA 120 V ∿, 60 Hz	220 watts
Canada		370 watts, 470 VA

JVC

VICTOR COMPANY OF JAPAN, LIMITED

Printed in Japan

Block Diagram



Removal and Reassembly Procedures

■ Removal of the Main P.C. Board

1. Remove the metal cover.
2. Remove screws ❶ ~ ❹ on the bracket of P.C. board. (Fig. 2)
   Note: If screws ❸ and ❹ can not be easily removed, loosen the power transtormer fixing screws and then slighty move the power transformer.
3. Pull out the main P.C. board in the direction of arrow as shown in Fig. 3.

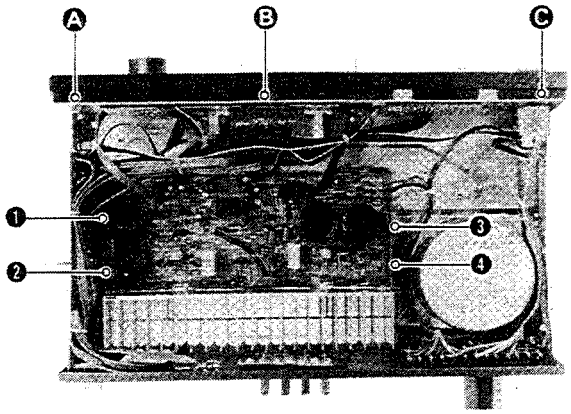


Fig. 2

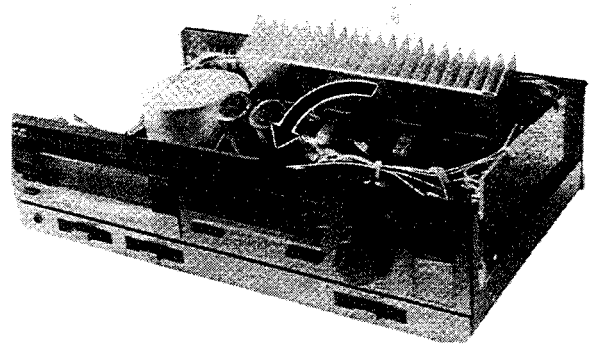


Fig. 3

■ Removal of the Front Panel

1. Remove plastic rivets Ⓐ ~ Ⓒ on the upper part of front anel shown in Fig. 1.
2. Remove screws Ⓓ ~ Ⓕ on the bottom side shown in Fig. 4.
3. Extract each knob for BASS, TREBLE, BALANCE and VOLUME.

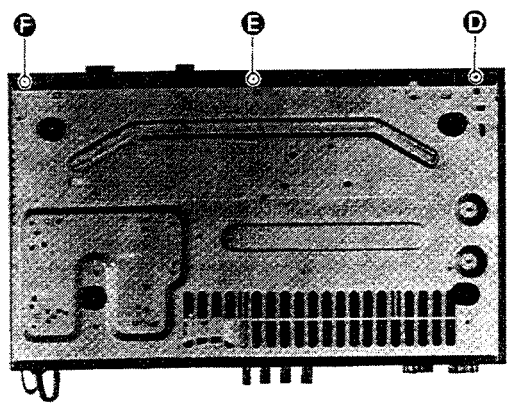
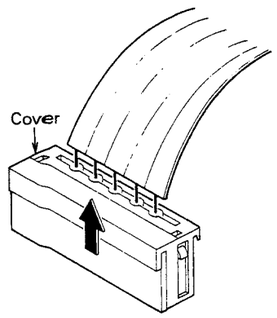


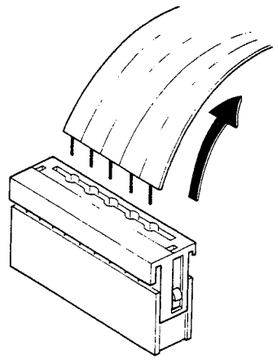
Fig. 4

■ Use of New-type Connector

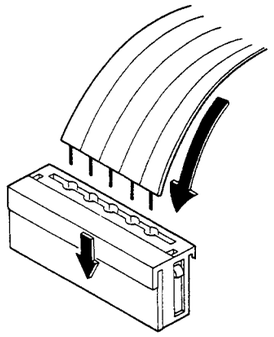
(1) Slide the cover upward.



(2) Extract the wires.



(3) Insert the wires after pushing in the cover.



Adjustment Procedures

■ Power Amplifier Idling Current Adjustment

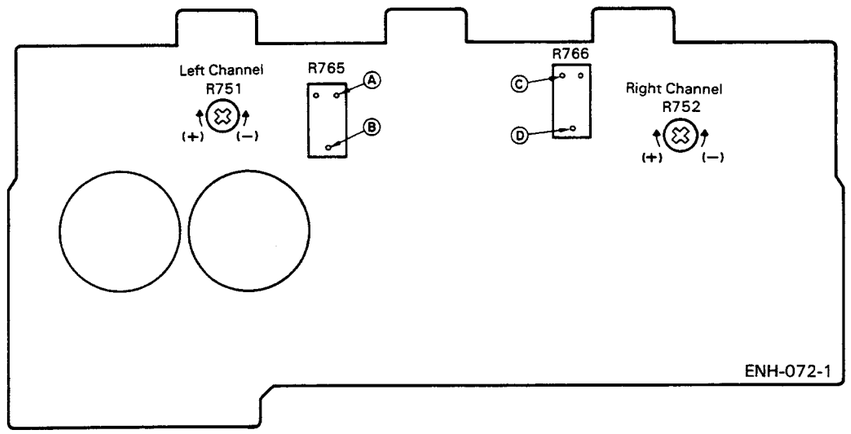
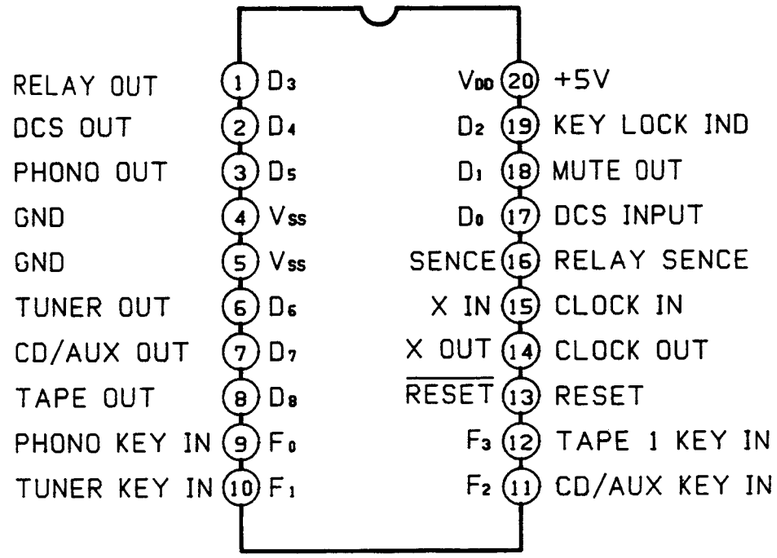


Fig. 6

1. Before turning on the power, turn the semi-fixed resistors (R751 for L channel and R752 for R channel) of the power amplifier circuit board fully counterclockwise.
2. Adjust the semi-fixed resistors (R751 and R752) so that the voltage at the following test points of the power amplifier circuit board is within a range of 0.5 ~ 1.0 mV after the power is turned on.
   L channel: Measure the voltage between test point Ⓐ (emitter of Q717) and output at the test point Ⓑ.
   R channel: Measure the voltage between test point Ⓒ (emitter of Q718) and output at the test point Ⓓ.
3. Readjust resistors R751 and R752 about 5 minutes after the power is turned on (the heatsink temperature must be sufficiently high) so that the voltage at the test points becomes 2.3 mV.
   Confirm that the voltage does not vary when the heatsink temperature increases further.
   Note: Be sure to perform the measurement with the probes and cabinet of the measuring equipment separated from the grounding terminals of AX-44BK or other measuring equipment.

Guidance to Repairing

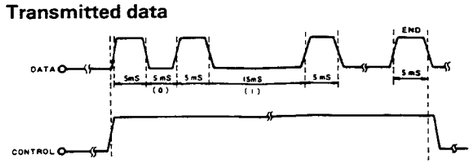
■ IC103 (M50761-304P) Pin Functions


RELAY OUT 1 D3
DCS OUT 2 D4
PHONO OUT 3 D5
GND 4 VSS
GND 5 VSS
TUNER OUT 6 D6
CD/AUX OUT 7 D7
TAPE OUT 8 D8
PHONO KEY IN 9 F0
TUNER KEY IN 10 F1
VDD 20 +5V
D2 19 KEY LOCK IND
D1 18 MUTE OUT
D0 17 DCS INPUT
SENCE 16 RELAY SENCE
X IN 15 CLOCK IN
X OUT 14 CLOCK OUT
RESET 13 RESET
F3 12 TAPE 1 KEY IN
F2 11 CD/AUX KEY IN

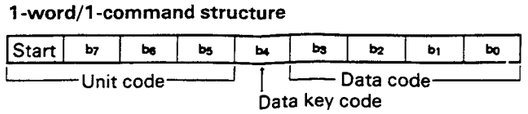
■ Data Transmission Method

The SYNCHRO terminal, connected via the common bus line to the other equpment, handles two-way data excange by bollowing data transmission method.

Transmitted data



1-word/1-command structure



$b_4 = 0$ Operation code
$b_4 = 1$ Station number or tune number code (not used in this model)

■ Signal Code List

● Code list 1 : $b_4 = 0$ (OP = Optional)

(A) DECK

Hexadecimal	Data code				Function	Key input with same meaning
0	0	0	0	0	———	———
1	0	0	0	1	PLAY status set	PLAY
2	0	0	1	0	STOP status set ["STOP (I)" signal]	STOP
6	0	1	1	0	REC PLUSE set after 4-sec, REC MUTE	REC MUTE PAUSE
9	1	0	0	0	REC PLAY status set	REC · PLAY
E	1	1	1	0	STOP status set only during PLAY	——— "STOP (II)" signal

(B) TURNTABLE

Hexadecimal	Data code				Function	Key input with same meaning
6	0	1	1	0	Tonearm returns to arm rest and turntable STOP status set	——— (ALL STOP)
7	0	1	1	1	"START"	
9	1	0	0	1	Deck saves recording-discontinued signal	——— (NON REC)
A	1	0	1	0	Saves the signal when the deck enters from the mode other than rec to REC PAUSE mode.	——— (REC · PAUSE)

(C) AMPLIFIER

Hexadecimal	Data code				Function	Key input with same meaning
0	0	0	0	0	———	———
1	0	0	0	1	SOURCE switched to PHONO	
3	0	0	1	1	SOURCE switched to CD/AUX	CD/AUX
4	0	1	0	0	SOURCE switched to TAPE 1	TAPE 1
9	1	0	0	0	——— Edit-recording start signal	———
A	1	0	1	0	SOURCE returned to previous setting [REC (SOURCE)]	——— "REC (SOURCE)"

(D) TUNER

Hexadecimal	Data code				Function	Key input with same meaning
0	0	0	0	0	Cancellation of audio muting of TUNER	———

(E) CD PLAYER

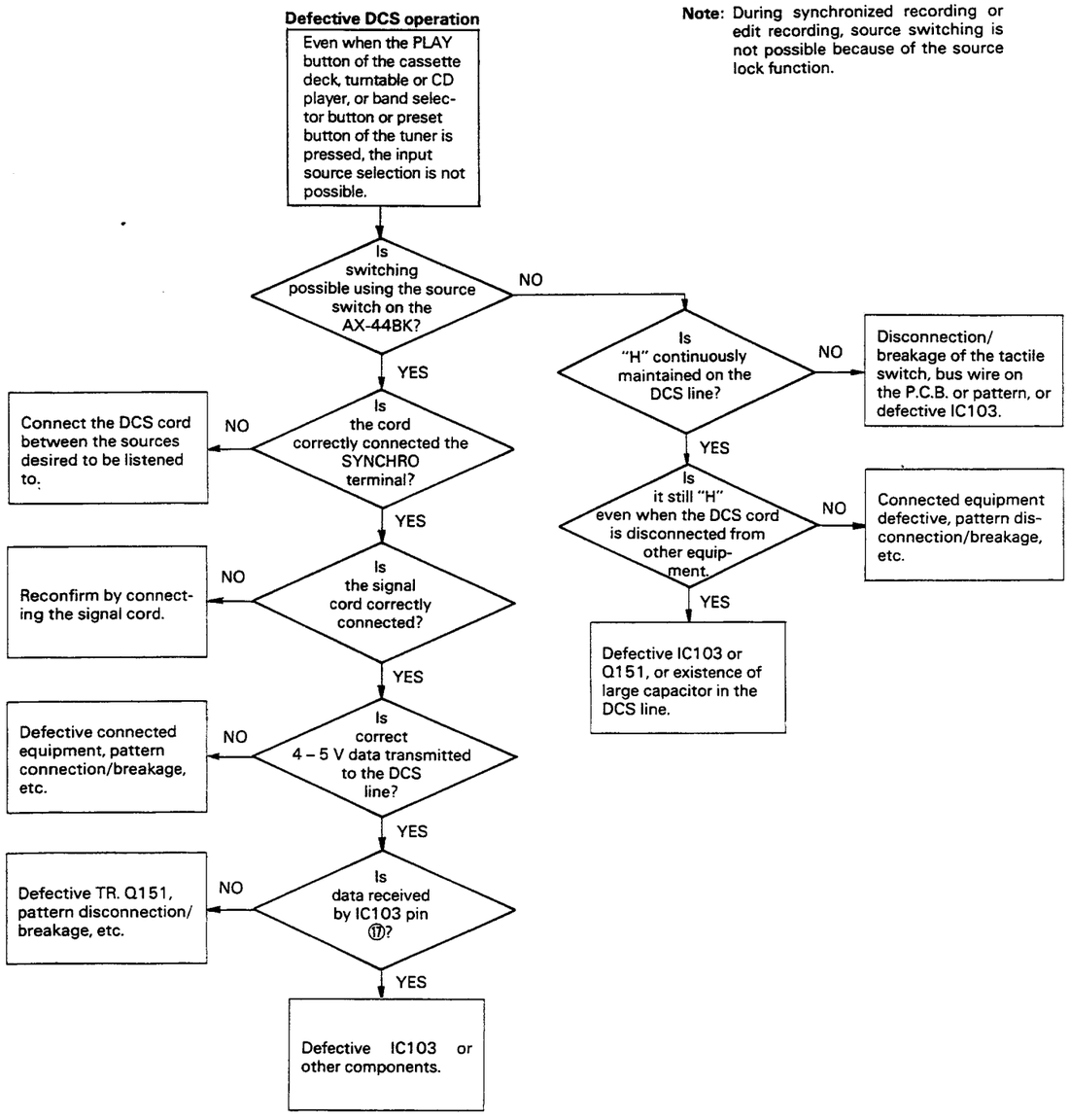
Hexadecimal	Data code				Function	Key input with same meaning
1	0	0	0	1	PLAY status set	———

● Code list

	Unit code			
0	0	0	0	———
1	0	0	1	DECK
2	0	1	0	CD PLAYER
4	1	0	0	TURNTABLE
5	1	0	1	AMPLIFIER
8	1	1	0	TUNER

As the SYNCHRO terminal uses a common bus line with all equipment as shown in the tables above, the or der of connection of equipment poses no problem.
The SYNCHRO terminal is not connected to GROUND; because of this, DCS does not function when signal codes are not continuously transmitted between the equipment.

5-(4) Troubleshooting


Defective DCS operation
Even when the PLAY button of the cassette deck, turntable or CD player, or band selector button or preset button of the tuner is pressed, the input source selection is not possible.
Is switching possible using the source switch on the AX-44BK?
NO
YES
Is "H" continuously maintained on the DCS line?
NO
Disconnection/ breakage of the tactile switch, bus wire on the P.C.B. or pattern, or defective IC103.
YES
Is it still "H" even when the DCS cord is disconnected from other equipment.
NO
Connected equipment defective, pattern disconnection/breakage, etc.
YES
Defective IC103 or Q151, or existence of large capacitor in the DCS line.
Is the cord correctly connected the SYNCHRO terminal?
NO
Connect the DCS cord between the sources desired to be listened to.
YES
Is the signal cord correctly connected?
NO
Reconfirm by connecting the signal cord.
YES
Is correct 4 – 5 V data transmitted to the DCS line?
NO
Defective connected equipment, pattern connection/breakage, etc.
YES
Is data received by IC103 pin ⑰?
NO
Defective TR. Q151, pattern disconnection/ breakage, etc.
YES
Defective IC103 or other components.

Note: During synchronized recording or edit recording, source switching is not possible because of the source lock function.

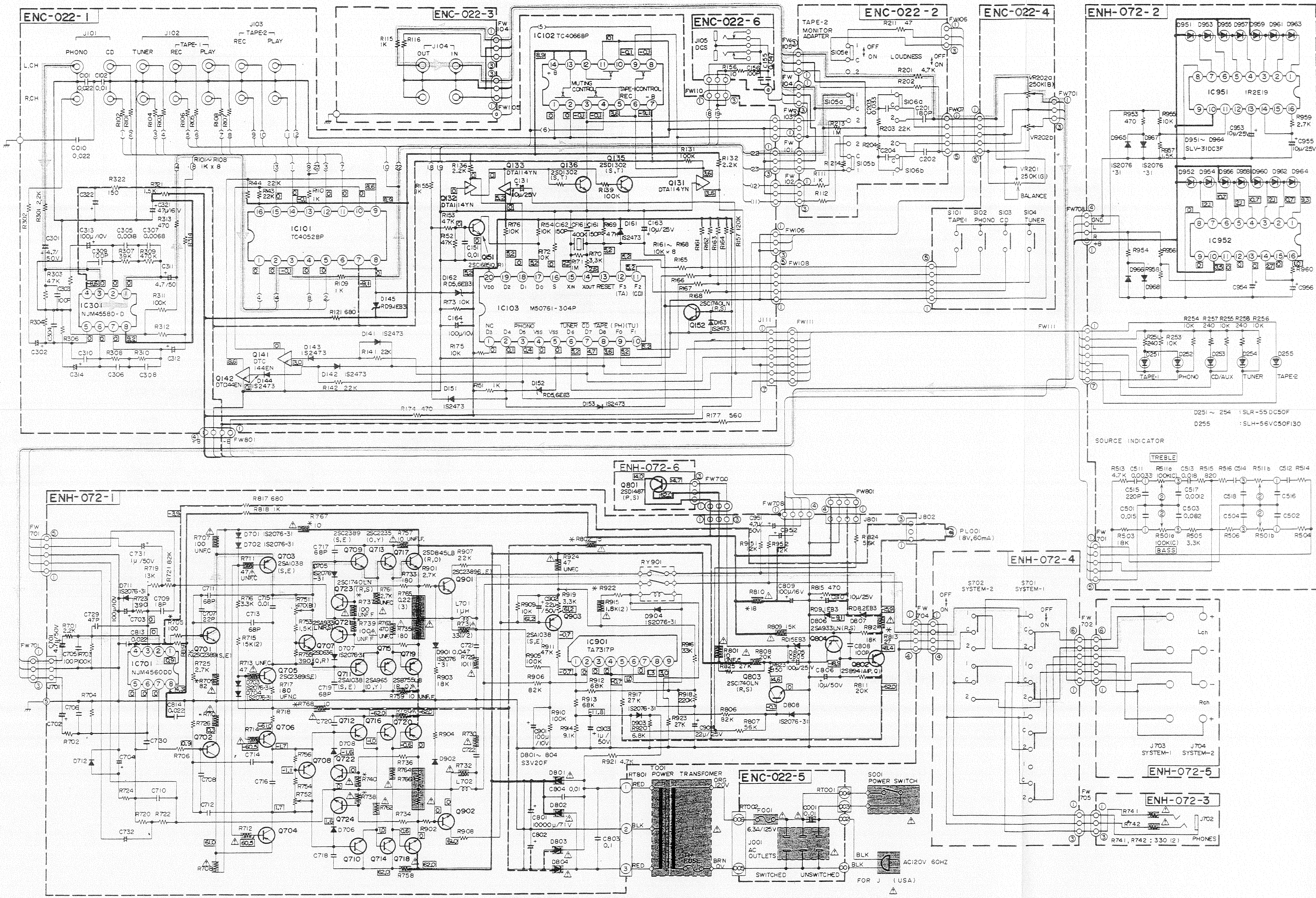
When DCS is defective as shown in the above example, check if signals are output on the DCS data line.

(Simplified check method)

Apply probes of the tester (for voltage measurement) between the SYNCHRO terminal and the ground, and press the button of the equipment ot be checked then check if the tester needle moves with a momentary shaking motion.

Schematic Diagram

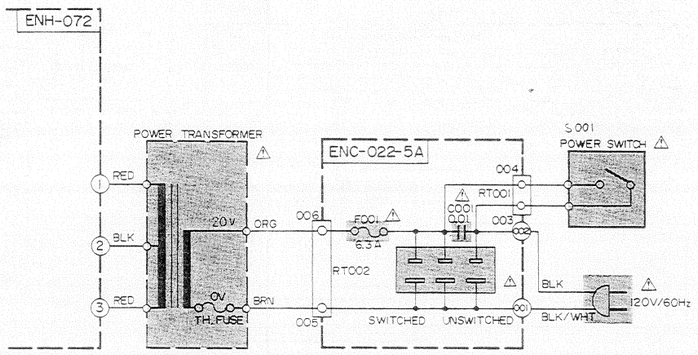
■ AX-44BK Amplifier Section


ENC-022-1
J101
PHONO
CD
J102
TUNER
TAPE-1
REC
PLAY
J103
TAPE-2
REC
PLAY
L.CH
R.CH
IC301
NJM4558D-D
IC101
TC4052BP
R101~R108
1K x 8
ENC-022-3
J104
OUT
IN
IC102 TC4066BP
MUTING CONTROL
TAPE-1 CONTROL
REC
ENC-022-6
J105
DCS
IC103 M50761-304P
Q133 DTA114YN
Q136 2SD1302 (S,T)
Q135 2SD1302 (S,T)
Q131 DTA114YN
Q132 DTA114YN
Q151 2SC1685(Q,R)
Q152 2SC1740LN (R,S)
Q141 DTC144EN
Q142 DTC144EN
ENC-022-2
TAPE-2 MONITOR ADAPTER
LOUDNESS
OFF
ON
ENC-022-4
VR202a 250K(B)
VR202b
VR201 250K(G)
BALANCE
S101 TAPE-1
S102 PHONO
S103 CD
S104 TUNER
ENH-072-2
IC951 IR2E19
IC952
D951~D964 SLV-31DC3F
R254 R257 R255 R258 R256
TAPE-1
PHONO
CD/AUX
TUNER
TAPE-2
D251 ~ 254 : SLR-55DC50F
D255 : SLH-56VC50F130
SOURCE INDICATOR
TREBLE
BASS
ENH-072-6
Q801 2SD1487 (P,S)
ENH-072-1
IC701 NJM4560DD
IC901 TA7317P
RY901
T001 POWER TRANSFOMER
ENC-022-5
S001 POWER SWITCH
J001 AC OUTLETS
SWITCHED
UNSWITCHED
AC120V 60HZ
FOR J (USA)
PL001 (8V,60mA)
ENH-072-4
S702 SYSTEM-2
S701 SYSTEM-1
ENH-072-5
J703 SYSTEM-1
J704 SYSTEM-2
Lch
Rch
ENH-072-3
J702
PHONES
R741, R742 : 330 (2)

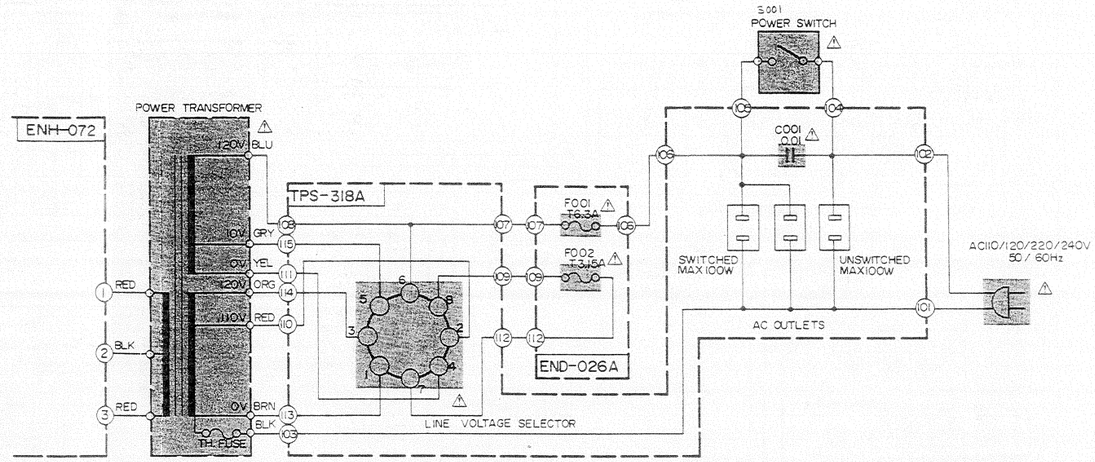
Schematic Diagram

■ AX-44BK Power Supply Section

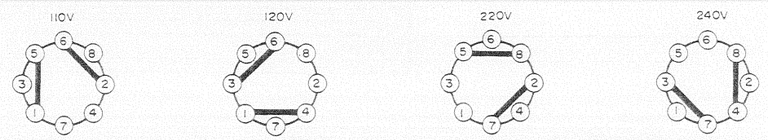
FOR C(CANADA)



FOR P&PG(OTHER COUNTRIES)



VOLTAGE SELECTOR CONNECTION



✳ MARKED PARTS

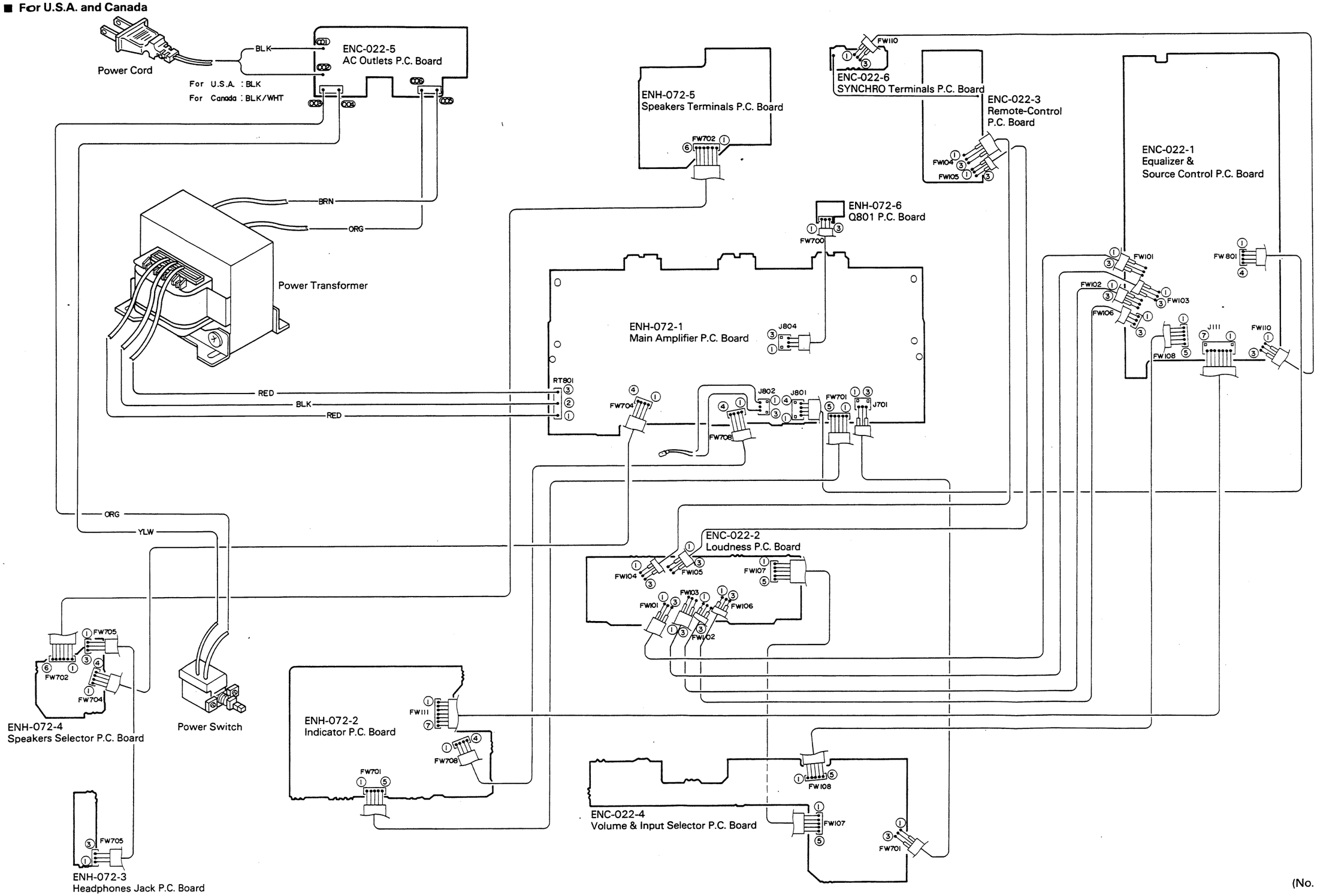
AREA \ SYMBOL No.	R709, 710	R767, 768	R922	R923	R802	R813	R808	R810	R705, 706	R737~740
J (USA)	UNF. C	UNF. C	100Ω	15KΩ	UNF. C	UNF. C	UNF. C	UNF. C	C. RES	C. RES
C (CANADA)	UNF. C	UNF. C	100Ω	15KΩ	UNF. C	UNF. C	UNF. C	UNF. C	C. RES	UNF. F
P.PG (OTHER COUNTRIES)	UNF. F	UNF. F	SHORT	56KΩ	UNF. F	UNF. F	UNF. F	UNF. F	C. RES	C. RES

Notes:

1. —— indicates positive B power supply.
2. ----- indicates negative B power supply.
3. ▒▒ indicates signal path.
4. ▭ shows DC voltage to the chasiss with no signal inpt.
5. When replacing the parts in the darkened area (▒▒) and those marked with ⚠, be sure to use the designated parts to ensure safety.
6. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

Connection Diagram

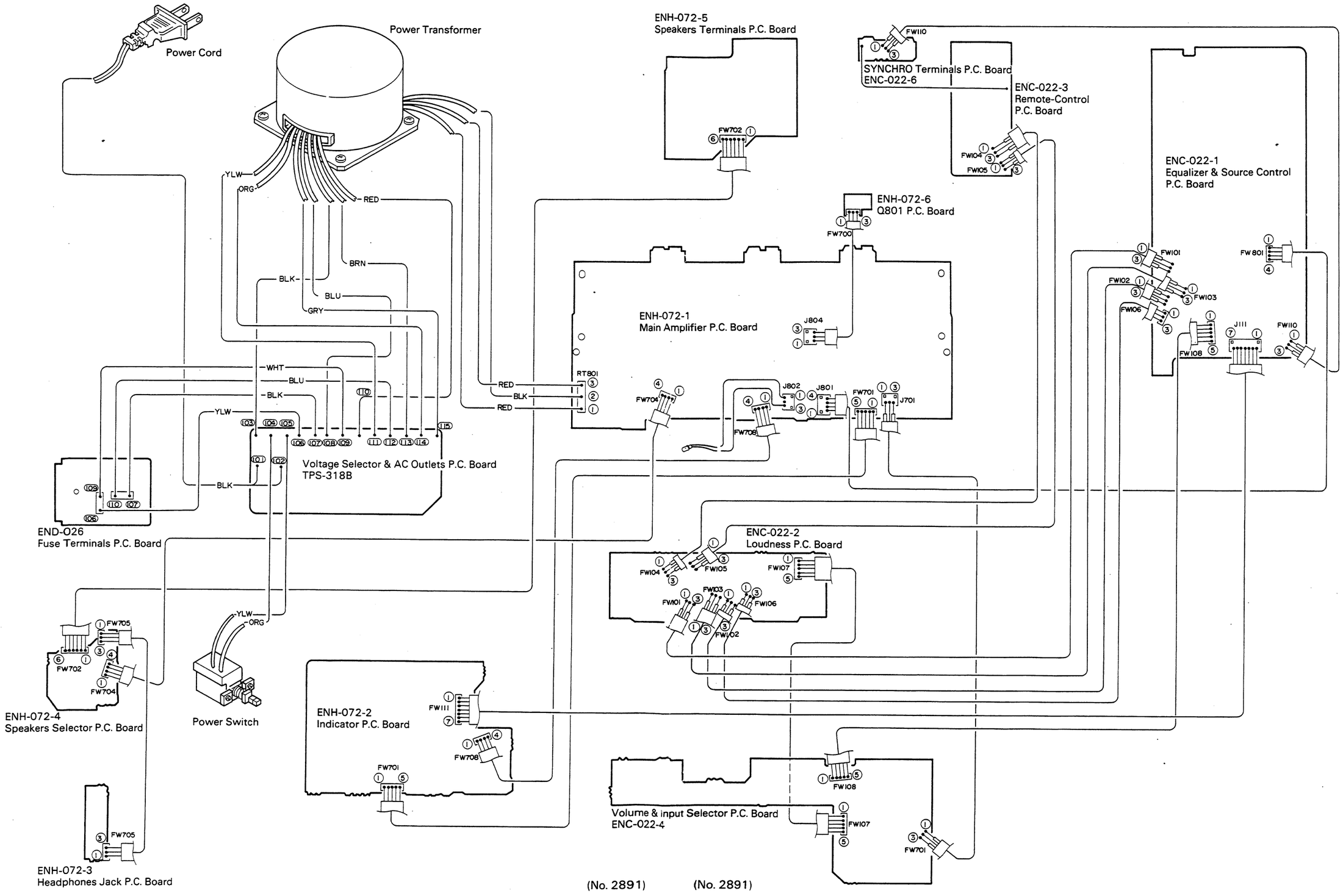
■ **For U.S.A. and Canada**



(No. 2891)

Connection Diagram

■ **For U.S. Military Market**



PARTS LIST

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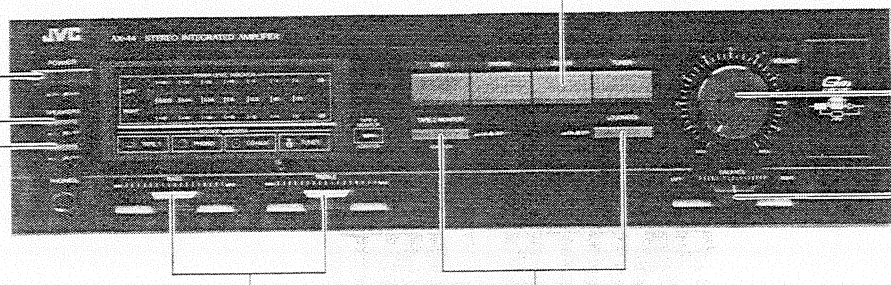
Printed Circuit Board Ass'y and Parts List 2-7
■ ENH-072 □ Power Amplifier P.C.Board Ass'y 2-7
■ ENC-022 □ Pre-Amplifier P.C. Board Ass'y 2-10
■ TPS-318 [B] Voltage Selector P.C. Board Ass'y 2-12
■ END-026 [A] Fuse P.C. Board Ass'y 2-13
Packing Materials and Part Numbers 2-13
Accessories List 2-13

Main Parts Locations

■ Top View



E304181-001
Knob Ass'y

E72789-001
Push knob

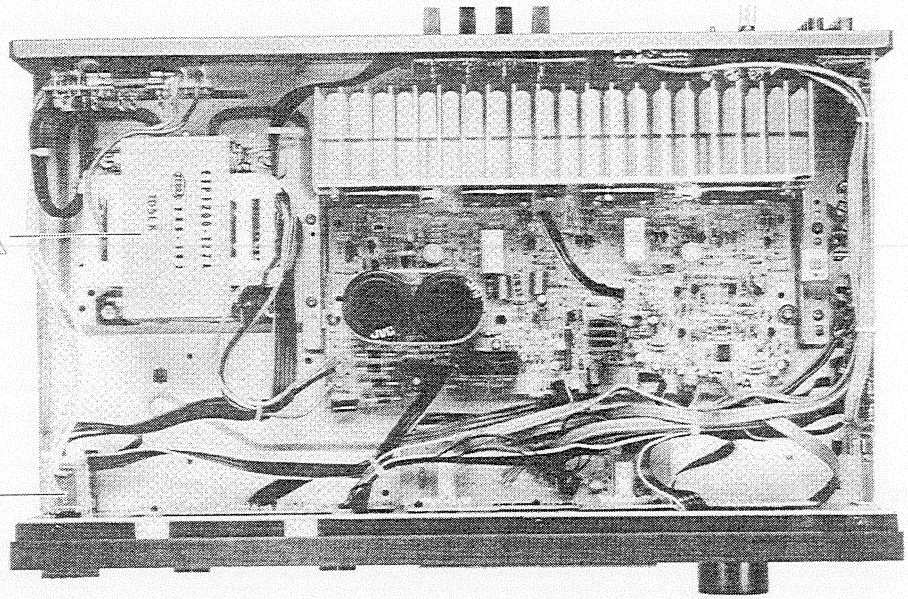
E72468-001
Push knob

E72138-001
Volume knob

E72450-002
Knob

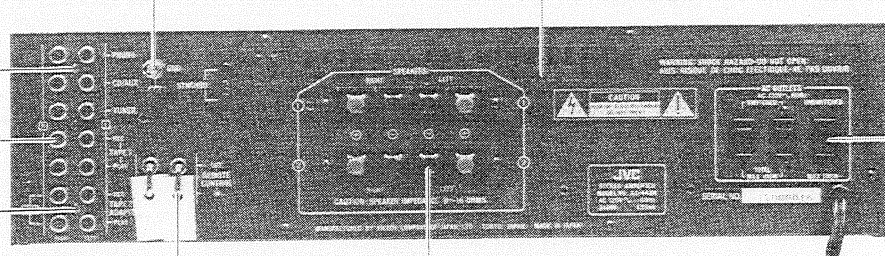
E72450-002
Knob

E72797-001
Push knob



See Page 2-5
Power Transformer ⚠

QSP1106-005
Power Switch ⚠



E70078-001
GND. Terminal

See page 2-4
Rear Panel

EMN00TV-405A
4P Pin Jack

EMN00TV-602A
6P Pin Jack

EMN00TV-402A
4P Pin Jack

See page 2-10
AC Socket ⚠

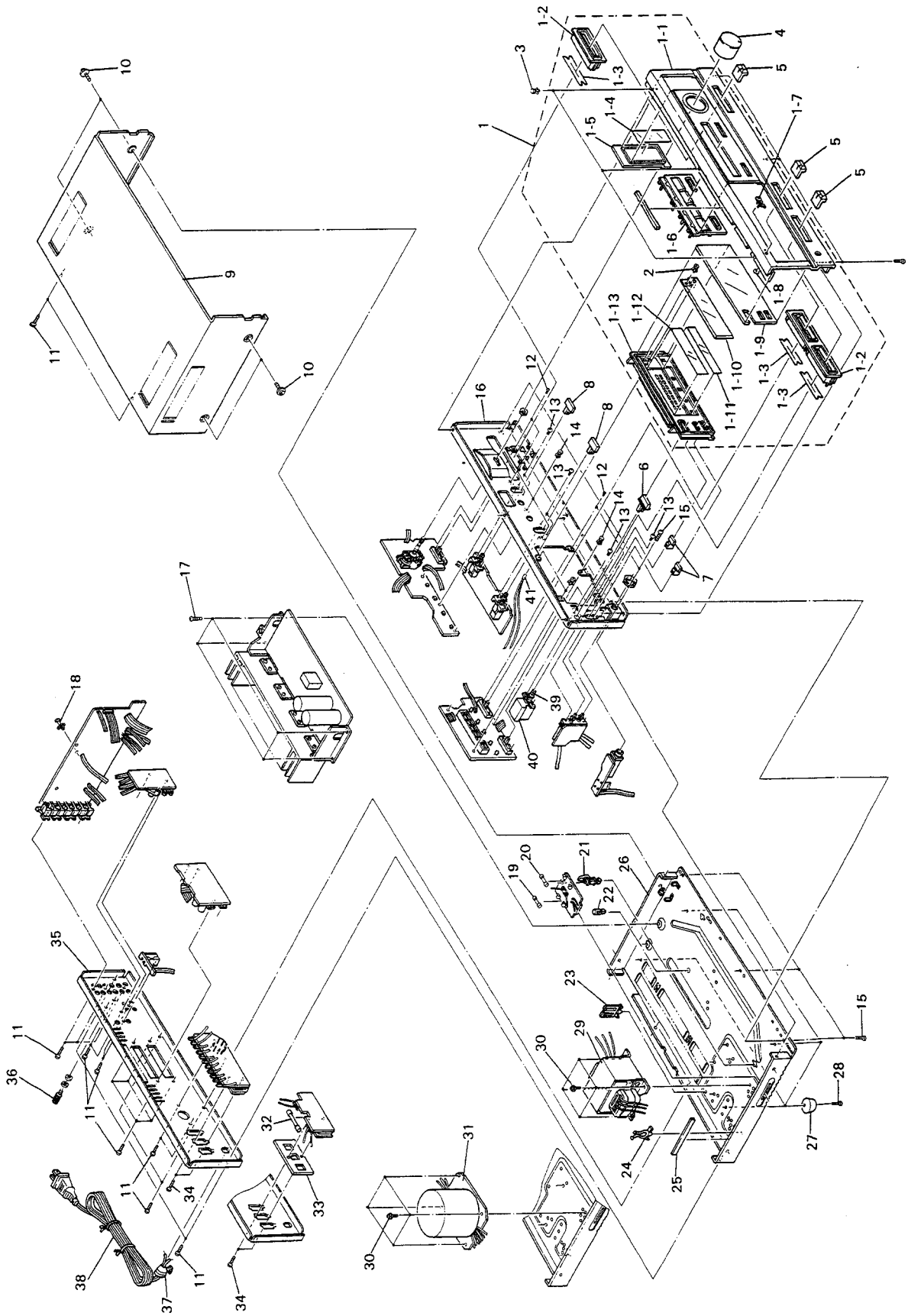
See page 2-4
Power Cord ⚠

EMZ3001-001
Short Pin

E03572-007EM
Speaker Terminal

⚠ : Safety Parts

Exploded View and Part List



⚠	Item No.	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-AX44BKE	Front Panel Ass'y	1		
	1-1	E25253-002	Front Panel	1		
	1-2	E304136-001	Knob Escutcheon	1		
	1-3	E72944-001	Felt Spacer	3		
	1-4	E72798-001	Sheet	1		
	1-5	E72853-001	Escutcheon	1		
	1-6	E304181-001	Knob Ass'y	1		
	1-7	E72968-001	JVC Mark	1		
	1-8	E60912-003	Spped Nut	1		
	1-9	E304090-002	Window Screen	1		
	1-10	E304088-002	Scale	9		
	1-11	E72796-002	Sheet	1		
	1-12	E72795-001	Sheet	1		
	1-13	E25255-001	Window Escutcheon	1		
	2	E48729-007	Plastic Rivet	1		
	3	E48729-009	Plastic Rivet	3		
	4	E72138-001	Volume Knob	1		
	5	E72450-002	Knob	3		
	6	E72789-001	Push Knob	1	Power	
	7	E72468-001	Push Button	2	Speakers	
	8	E72797-001	Push knob	2	Tape, Loudness	
	9	E24721-006	Metal Cover	1		
	10	E61660-004	Screw	4		
	11	SBSB3008M	Screw	20		
	12	E70053-001	Screw	4		
	13	SBST3006Z	Screw	8		
	14	E48729-008	Plastic Rivet	6		
	15	SBSB3008N	Screw	5		
	16	E11240-001	Front Bracket	1		
	17	SBST3006CC	Screw	4		
	18	E69384-002	Fastener	1		
⚠	19	QMF51A2-3R15S	Fuse	1	F002	P,PG
⚠	20	QMF51A2-6R3S	Fuse	1	F001	P,PG
	21	E34455-001	Fastener	1		P,PG
	22	E71335-002	Fastener	1		
	23	QHW3059-001	Wire Clamp	1		
	24	QHW2052-001	Wire Clamp	1		J,C
	25	E65778-002	Spacer	1		
	26	E10717-011	Chassis Base	1		
	27	E47227-012	Foot	4		
	28	SBSB3010Z	Screw	4		
⚠	29	ETP1200-12JA	Power Transformer	1		J,C
	30	E65389-004	Screw	4		
⚠	31	ETP4300-02FA	Power Transformer	1		P,PG
⚠	32	QMF60U1-6R3	Fuse	1		J,C
	33	E69589-005	Spacer	1		J
	34	SDSB3008M	Screw	2		
	35	E24127-045	Rear Panel	1		J
		E24127-047	Rear Panel	1		C
		E24127-048	Rear Panel	1		P,PG
⚠	37	QHS3876-162	Cord Stopper	1		
⚠	38	QMP1900-200	Power Cord	1		J
⚠		QMP1480-200H	Power Cord	1		C
⚠		QMP7600-250	Power Cord	1		P,PG
⚠	39	QSP1106-005	Power Switch	1		
	40	E71005-001	Switch Cover	1		
	41	ELP3105-8060A	Pilot Lamp	1		

⚠ : Safety Parts

The Marks for Designated Areas

J.....U.S.A

C.....Canada

P,PG.....U.S.Military Market

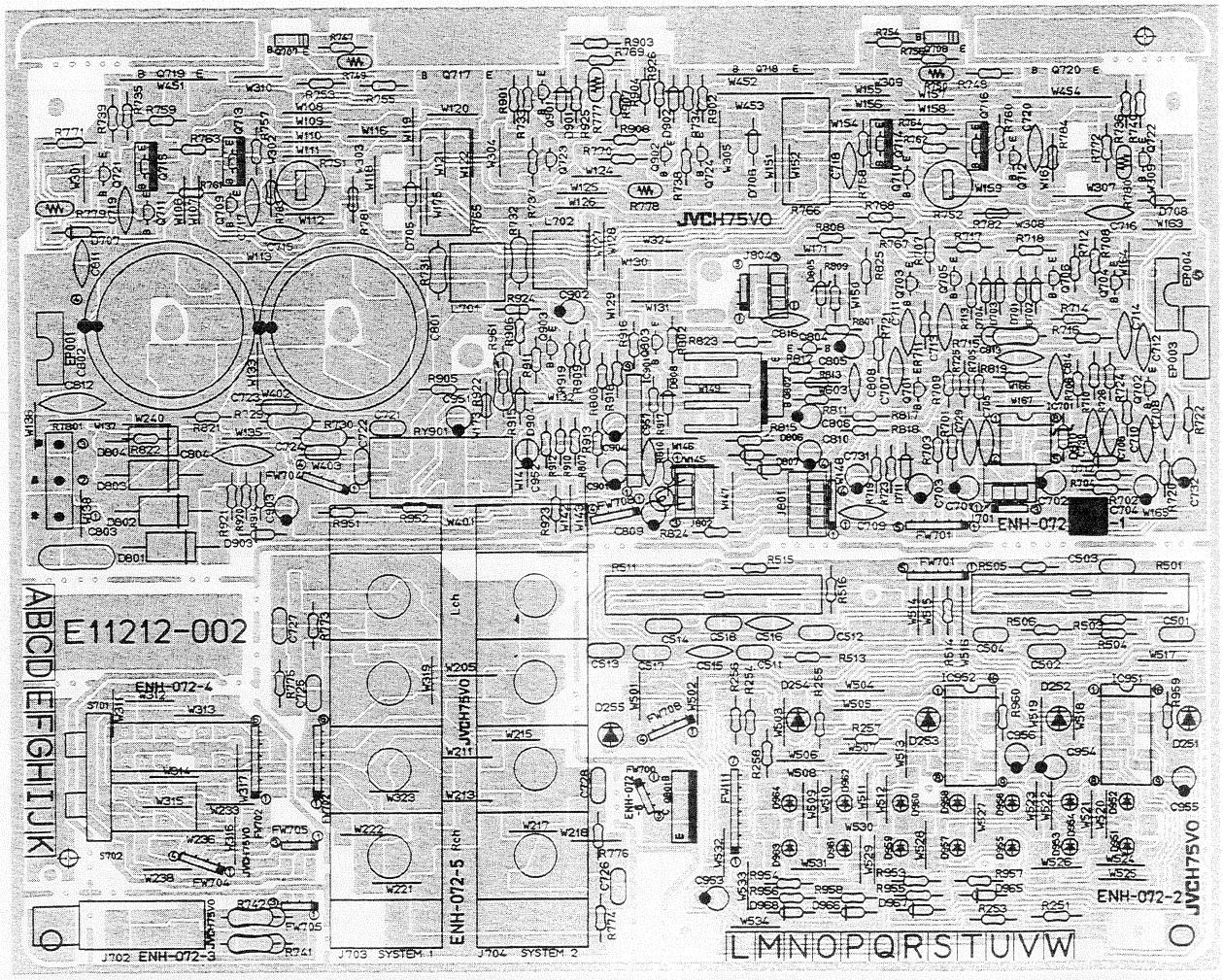
Printed Circuit Board Ass'y and Parts List

■ ENH-072 □ Power Amplifier P.C.Board Ass'y

Note: ENH-072 □ Varies according to the areas employed. See note (1) when placing on order.

Note (1)

P.C. Board Ass'y	Designated Areas
ENH-072 [A]	U.S.A
ENH-072 [B]	Canada
ENH-072 [L]	U.S.Military Market



TRANSITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	Q701	2SC2389(S,E)	SILICON	ROHM	
	Q702	2SC2389(S,E)	SILICON	ROHM	
	Q703	2SA1038(S,E)	SILICON	ROHM	
	Q704	2SA1038(S,E)	SILICON	ROHM	
	Q705	2SC2389(S,E)	SILICON	ROHM	
	Q706	2SC2389(S,E)	SILICON	ROHM	
	Q707	2SD636(Q,R)	SILICON	MATSUSHITA	
	Q708	2SD636(Q,R)	SILICON	MATSUSHITA	
	Q709	2SC2389(S,E)	SILICON	ROHM	
	Q710	2SC2389(S,E)	SILICON	ROHM	
	Q711	2SA1038(S,E)	SILICON	ROHM	
	Q712	2SA1038(S,E)	SILICON	ROHM	
	Q713	2SC2235(O,Y)	SILICON	TOSHIBA	
	Q714	2SC2235(O,Y)	SILICON	TOSHIBA	
	Q715	2SA965(O,Y)	SILICON	TOSHIBA	
	Q716	2SA965(O,Y)	SILICON	TOSHIBA	
	Q717	2SD845LB(O,R)	SILICON	TOSHIBA	
	Q718	2SD845LB(O,R)	SILICON	TOSHIBA	
	Q719	2SB755LB(O,R)	SILICON	TOSHIBA	
	Q720	2SB755LB(O,R)	SILICON	TOSHIBA	
	Q721	2SA933LN(R,S)	SILICON	ROHM	
	Q722	2SA933LN(R,S)	SILICON	ROHM	
	Q723	2SC1740LN(R,S)	SILICON	ROHM	
	Q724	2SC1740LN(R,S)	SILICON	ROHM	
	Q801	2SD1487(P,S)	SILICON	MATSUSHITA	
	Q802	2SB941A(P,Q)	SILICON	MATSUSHITA	
	Q803	2SC1740LN(R,S)	SILICON	ROHM	
	Q804	2SA933LN(R,S)	SILICON	ROHM	
	Q901	2SC2389(S,E)	SILICON	ROHM	
	Q902	2SC2389(S,E)	SILICON	ROHM	
	Q903	2SA1038(S,E)	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.S

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	IC701	NJM4560DD	I.C.	JRC	
	IC901	TA7317P	I.C.	TOSHIBA	
	IC951	IR2E19	I.C.	SHARP	
	IC952	IR2E19	I.C.	SHARP	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D251	SLR-55DC5OF	L.E.D.	ROHM	
	D252	SLR-55DC5OF	L.E.D.	ROHM	
	D253	SLR-55DC5OF	L.E.D.	ROHM	
	D254	SLR-55DC5OF	L.E.D.	ROHM	
	D255	SLH-56VC5OF130	L.E.D.	ROHM	
	D701	1S2076-31	SILICON	HITACHI	
	D702	1S2076-31	SILICON	HITACHI	
	D703	1S2076-31	SILICON	HITACHI	
	D704	1S2076-31	SILICON	HITACHI	
	D705	1S2076-31	SILICON	HITACHI	
	D706	1S2076-31	SILICON	HITACHI	
	D707	1S2076-31	SILICON	HITACHI	
	D708	1S2076-31	SILICON	HITACHI	
	D711	1S2076-31	SILICON	HITACHI	
	D712	1S2076-31	SILICON	HITACHI	
	D801	S3V20F	SILICON	SHINDENGEN	
	D802	S3V20F	SILICON	SHINDENGEN	
	D803	S3V20F	SILICON	SHINDENGEN	
	D804	S3V20F	SILICON	SHINDENGEN	
	D805	RD15EB3	ZENER	NEC	
	D806	RD9.1EB3	ZENER	NEC	
	D807	RD8.2EB3	ZENER	NEC	
	D808	1S2076-31	SILICON	HITACHI	
	D901	1S2076-31	SILICON	HITACHI	
	D902	1S2076-31	SILICON	HITACHI	
	D903	1S2076-31	SILICON	HITACHI	
	D904	1S2076-31	SILICON	HITACHI	
	D951	SLV-31DC3F	L.E.D.	ROHM	
	D952	SLV-31DC3F	L.E.D.	ROHM	
	D953	SLV-31DC3F	L.E.D.	ROHM	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D954	SLV-31DC3F	L.E.D.	ROHM	
	D955	SLV-31DC3F	L.E.D.	ROHM	
	D956	SLV-31DC3F	L.E.D.	ROHM	
	D957	SLV-31DC3F	L.E.D.	ROHM	
	D958	SLV-31DC3F	L.E.D.	ROHM	
	D959	SLV-31DC3F	L.E.D.	ROHM	
	D960	SLV-31DC3F	L.E.D.	ROHM	
	D961	SLV-31DC3F	L.E.D.	ROHM	
	D962	SLV-31DC3F	L.E.D.	ROHM	
	D963	SLV-31DC3F	L.E.D.	ROHM	
	D964	SLV-31DC3F	L.E.D.	ROHM	
	D965	1S2076-31	SILICON	HITACHI	
	D966	1S2076-31	SILICON	HITACHI	
	D967	1S2076-31	SILICON	HITACHI	
	D968	1S2076-31	SILICON	HITACHI	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C501	QFN81HK-153	0.015MF	50V	MYLAR	
	C502	QFN81HK-153	0.015MF	50V	MYLAR	
	C503	QFN81HK-823	0.082MF	50V	MYLAR	
	C504	QFN81HK-823	0.082MF	50V	MYLAR	
	C511	QFN81HK-332	3300PF	50V	MYLAR	
	C512	QFN81HK-332	3300PF	50V	MYLAR	
	C513	QFN81HK-183	0.018MF	50V	MYLAR	
	C514	QFN81HK-183	0.018MF	50V	MYLAR	
	C515	QCS21HJ-221	220PF	50V	CERAMIC	
	C516	QCS21HJ-221	220PF	50V	CERAMIC	
	C517	QFN81HK-122	1200PF	50V	MYLAR	
	C518	QFN81HK-122	1200PF	50V	MYLAR	
	C701	QETB1HM-475	4.7MF	50V	ELECTRO	
	C702	QETB1HM-475	4.7MF	50V	ELECTRO	
	C703	QETB1AM-107	100MF	10V	ELECTRO	
	C704	QETB1AM-107	100MF	10V	ELECTRO	
	C705	QCS21HJ-101	100PF	50V	CERAMIC	
	C706	QCS21HJ-101	100PF	50V	CERAMIC	
	C707	QCS21HJ-220	22PF	50V	CERAMIC	
	C708	QCS21HJ-220	22PF	50V	CERAMIC	
	C709	QCS21HJ-180	18PF	50V	CERAMIC	
	C710	QCS21HJ-180	18PF	50V	CERAMIC	
	C711	QCS21HJ-680	68PF	50V	CERAMIC	
	C712	QCS21HJ-680	68PF	50V	CERAMIC	
	C713	QCS21HJ-680	68PF	50V	CERAMIC	
	C714	QCS21HJ-680	68PF	50V	CERAMIC	
	C715	QCF21HP-103	0.01MF	50V	CERAMIC	
	C716	QCF21HP-103	0.01MF	50V	CERAMIC	
	C717	QCS21HJ-680	68PF	50V	CERAMIC	
	C718	QCS21HJ-680	68PF	50V	CERAMIC	
	C719	QCS21HJ-680	68PF	50V	CERAMIC	
	C720	QCS21HJ-680	68PF	50V	CERAMIC	
	C721	QFN81HK-473	0.047MF	50V	MYLAR	
	C722	QFN81HK-473	0.047MF	50V	MYLAR	
	C731	QETB1HM-105	1MF	50V	ELECTRO	
	C732	QETB1HM-105	1MF	50V	ELECTRO	
	C801	EEZ7101-109	10000MF	71V	ELECTRO	
	C802	EEZ7101-109	10000MF	71V	ELECTRO	
	C803	QFH42EK-104	0.1MF	250V	H.MYLAR	
	C804	QCE22HP-103A	0.01MF	500V	CERAMIC	
	C805	QETB1EM-107	100MF	25V	ELECTRO	
	C806	QETB1HM-106	10MF	50V	ELECTRO	
	C808	QCS21HJ-101	100PF	50V	CERAMIC	
	C809	QETB1CM-107	100MF	16V	ELECTRO	
	C810	QETB1EM-106	10MF	25V	ELECTRO	
	C813	QCF21HP-223	0.022MF	50V	CERAMIC	
	C814	QCF21HP-223	0.022MF	50V	CERAMIC	
	C901	QETB1AM-107	100MF	10V	ELECTRO	
	C902	QETB1HM-226	22MF	50V	ELECTRO	
	C903	QETB1HM-105	1MF	50V	ELECTRO	
	C904	QETB1EM-226	22MF	25V	ELECTRO	
	C951	QETB1HM-475	4.7MF	50V	ELECTRO	
	C952	QETB1HM-475	4.7MF	50V	ELECTRO	
	C953	QETB1EM-106	10MF	25V	ELECTRO	
	C954	QETB1EM-106	10MF	25V	ELECTRO	
	C955	QETB1EM-106	10MF	25V	ELECTRO	
	C956	QETB1EM-106	10MF	25V	ELECTRO	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R251	QRD148J-241S	240	1/4W	CARBON	
	R253	QRD148J-103S	10K	1/4W	CARBON	
	R254	QRD148J-103S	10K	1/4W	CARBON	
	R255	QRD148J-103S	10K	1/4W	CARBON	
	R256	QRD148J-103S	10K	1/4W	CARBON	
	R257	QRD148J-241S	240	1/4W	CARBON	
	R258	QRD148J-241S	240	1/4W	CARBON	
	R501	QVUB01C-E15E	100K	1/8W	VARIABLE	
	R503	QRD148J-183S	18K	1/4W	CARBON	
	R504	QRD148J-183S	18K	1/4W	CARBON	
	R505	QRD148J-332S	3.3K	1/4W	CARBON	
	R506	QRD148J-332S	3.3K	1/4W	CARBON	
	R511	QVUB01C-E15E	100K	1/8W	VARIABLE	
	R513	QRD148J-472S	4.7K	1/4W	CARBON	
	R514	QRD148J-472S	4.7K	1/4W	CARBON	
	R515	QRD148J-821S	820	1/4W	CARBON	
	R516	QRD148J-821S	820	1/4W	CARBON	
	R701	QRD148J-222S	2.2K	1/4W	CARBON	
	R702	QRD148J-222S	2.2K	1/4W	CARBON	
	R703	QRD148J-104S	100K	1/4W	CARBON	
	R704	QRD148J-104S	100K	1/4W	CARBON	
	R705	QRD148J-101S	100	1/4W	CARBON	A
	R705	QRD148J-101S	100	1/4W	CARBON	B
⚠	R705	QRZ0062-101	100	1/4W	FUSIBLE	L
	R706	QRD148J-101S	100	1/4W	CARBON	A
	R706	QRD148J-101S	100	1/4W	CARBON	B
⚠	R706	QRZ0062-101	100	1/4W	FUSIBLE	L
⚠	R707	QRD145J-101S	100	1/4W	UNF.CARBON	
⚠	R708	QRD145J-101S	100	1/4W	UNF.CARBON	
⚠	R709	QRD145J-820S	82	1/4W	UNF.CARBON	A
⚠	R709	QRD145J-820S	82	1/4W	UNF.CARBON	B
⚠	R709	QRZ0062-820	82	1/4W	FUSIBLE	L
⚠	R710	QRD145J-820S	82	1/4W	UNF.CARBON	A
⚠	R710	QRD145J-820S	82	1/4W	UNF.CARBON	B
⚠	R710	QRZ0062-820	82	1/4W	FUSIBLE	L
⚠	R711	QRD145J-470S	47	1/4W	UNF.CARBON	
⚠	R712	QRD145J-470S	47	1/4W	UNF.CARBON	
⚠	R713	QRD145J-470S	47	1/4W	UNF.CARBON	
⚠	R714	QRD145J-470S	47	1/4W	UNF.CARBON	
⚠	R715	QRG022J-153AF	15K	2W	O.M.FILM	
	R716	QRD148J-332S	3.3K	1/4W	CARBON	
⚠	R717	QRD145J-181S	180	1/4W	UNF.CARBON	
⚠	R718	QRD145J-181S	180	1/4W	UNF.CARBON	
	R719	QRD148J-133S	13K	1/4W	CARBON	
	R720	QRD148J-133S	13K	1/4W	CARBON	
	R721	QRD148J-823S	82K	1/4W	CARBON	
	R722	QRD148J-823S	82K	1/4W	CARBON	
	R723	QRD148J-391S	390	1/4W	CARBON	
	R724	QRD148J-391S	390	1/4W	CARBON	
	R725	QRD148J-272S	2.7K	1/4W	CARBON	
	R726	QRD148J-272S	2.2K	1/4W	CARBON	
⚠	R729	QRG012J-100A	10	1W	O.M.FILM	
⚠	R730	QRG012J-100A	10	1W	O.M.FILM	
⚠	R731	QRD125J-330	33	1/2W	UNF.CARBON	
⚠	R732	QRD125J-330	33	1/2W	UNF.CARBON	
	R733	QRD148J-181S	180	1/4W	CARBON	
	R734	QRD148J-181S	180	1/4W	CARBON	
	R735	QRD148J-181S	180	1/4W	CARBON	
	R736	QRD148J-181S	180	1/4W	CARBON	
	R737	QRD148J-101S	100	1/4W	CARBON	A
	R737	QRD148J-101S	100	1/4W	CARBON	L
⚠	R737	QRZ0062-101	100	1/4W	FUSIBLE	B
	R738	QRD148J-101S	100	1/4W	CARBON	A
	R738	QRD148J-101S	100	1/4W	CARBON	L
⚠	R738	QRZ0062-101	100	1/4W	FUSIBLE	B
	R739	QRD148J-101S	100	1/4W	CARBON	A
	R739	QRD148J-101S	100	1/4W	CARBON	L
⚠	R739	QRZ0062-101	100	1/4W	FUSIBLE	B
	R740	QRD148J-101S	100	1/4W	CARBON	A
	R740	QRD148J-101S	100	1/4W	CARBON	L
⚠	R740	QRZ0062-101	100	1/4W	CARBON	B
⚠	R741	QRG022J-331A	330	2W	O.M.FILM	
⚠	R742	QRG022J-331A	330	2W	O.M.FILM	
	R751	QVZ3501-471	470		VARIABLE	
	R752	QVP4A0B-471	470		VARIABLE	
	R753	QRD148J-152S	1.5K	1/4W	CARBON	
	R754	QRD148J-152S	1.5K	1/4W	CARBON	
	R755	QRD148J-391S	390	1/4W	CARBON	
	R756	QRD148J-391S	390	1/4W	CARBON	
⚠	R757	QRZ0062-100	10	1/4W	FUSIBLE	
⚠	R758	QRZ0062-100	10	1/4W	FUSIBLE	
⚠	R759	QRZ0062-100	10	1/4W	FUSIBLE	
⚠	R760	QRZ0062-100	10	1/4W	FUSIBLE	
⚠	R761	QRD145J-272S	2.7K	1/4W	UNF.CARBON	
⚠	R762	QRD145J-272S	2.7K	1/4W	UNF.CARBON	
⚠	R763	QRD145J-471S	470	1/4W	UNF.CARBON	
⚠	R764	QRD145J-471S	470	1/4W	UNF.CARBON	
	R765	ERF032K-R22	0.22	3W	CEMENT	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R766	ERF032K-R22	0.22	3W	CEMENT	
⚠	R767	QRD145J-100S	10	1/4W	UNF.CARBON	A
⚠	R767	QRD145J-100S	10	1/4W	UNF.CARBON	B
⚠	R767	QRZ0062-100	10	1/4W	FUSIBLE	L
⚠	R768	QRD145J-100S	10	1/4W	UNF.CARBON	A
⚠	R768	QRD145J-100S	10	1/4W	UNF.CARBON	B
⚠	R768	QRZ0062-100	10	1/4W	FUSIBLE	L
⚠	R801	QRD145J-100S	10	1/4W	UNF.CARBON	
⚠	R802	QRD145J-150S	15	1/4W	UNF.CARBON	A
⚠	R802	QRD145J-150S	15	1/4W	UNF.CARBON	B
⚠	R802	QRZ0062-150	15	1/4W	FUSIBLE	L
	R806	QRD148J-823S	82K	1/4W	CARBON	
	R807	QRD148J-563S	56K	1/4W	CARBON	
	R808	QRD148J-203S	20K	1/4W	CARBON	
	R809	QRD148J-153S	15K	1/4W	CARBON	
⚠	R810	QRD145J-180S	18	1/4W	UNF.CARBON	A
⚠	R810	QRD145J-180S	18	1/4W	UNF.CARBON	B
⚠	R810	QRZ0062-180	18	1/4W	FUSIBLE	L
	R811	QRD148J-203S	20K	1/4W	CARBON	
	R812	QRD148J-183S	18K	1/4W	CARBON	
⚠	R813	QRD145J-270S	27	1/4W	UNF.CARBON	A
⚠	R813	QRD145J-270S	27	1/4W	UNF.CARBON	B
⚠	R813	QRZ0062-270	27	1/4W	FUSIBLE	L
	R815	QRD148J-471S	470	1/4W	CARBON	
	R817	QRD148J-681S	680	1/4W	CARBON	
	R818	QRD148J-102S	1K	1/4W	CARBON	
	R819	QRD148J-202S	2K	1/4W	CARBON	
	R821	QRD148J-154S	1M	1/4W	CARBON	
	R821	QRD148J-154S	1M	1/4W	CARBON	
	R823	QRD148J-151S	150	1/4W	CARBON	
	R824	QRD148J-563S	56K	1/4W	CARBON	
	R825	QRD148J-273S	27K	1/4W	CARBON	
	R901	QRD148J-272S	2.7K	1/4W	CARBON	
	R902	QRD148J-272S	2.7K	1/4W	CARBON	
	R903	QRD148J-183S	18K	1/4W	CARBON	
	R904	QRD148J-183S	18K	1/4W	CARBON	
	R905	QRD148J-104S	100K	1/4W	CARBON	
	R906	QRD148J-823S	82K	1/4W	CARBON	
	R907	QRD148J-223S	22K	1/4W	CARBON	
	R908	QRD148J-223S	22K	1/4W	CARBON	
	R909	QRD148J-103S	10K	1/4W	CARBON	
	R910	QRD148J-104S	100K	1/4W	CARBON	
	R911	QRD148J-473S	47K	1/4W	CARBON	
	R912	QRD148J-683S	68K	1/4W	CARBON	
	R913	QRD148J-683S	68K	1/4W	CARBON	
	R914	QRD148J-912S	9.1K	1/4W	CARBON	
⚠	R915	QRG022J-182AF	1.8K	2W	O.M.FILM	
	R916	QRD148J-333S	33K	1/4W	CARBON	
	R917	QRD148J-273S	27K	1/4W	CARBON	
	R918	QRD148J-224S	220K	1/4W	CARBON	
	R919	QRD148J-332S	3.3K	1/4W	CARBON	
	R920	QRD148J-682S	6.8K	1/4W	CARBON	
	R921	QRD148J-472S	4.7K	1/4W	CARBON	
	R922	QRD148J-101S	100	1/4W	CARBON	A
	R922	QRD148J-101S	100	1/4W	CARBON	B
	R923	QRD148J-273S	27K	1/4W	CARBON	
⚠	R924	QRD 45J-470S	47	1/4W	UNF.CARBON	
	R951	QRD148J-123S	12K	1/4W	CARBON	
	R952	QRD148J-123S	12K	1/4W	CARBON	
	R953	QRD148J-471S	470	1/4W	CARBON	
	R954	QRD148J-471S	470	1/4W	CARBON	
	R955	QRD148J-103S	10K	1/4W	CARBON	
	R956	QRD148J-103S	10K	1/4W	CARBON	
	R957	QRD148J-152S	1.5K	1/4W	CARBON	
	R958	QRD148J-152S	1.5K	1/4W	CARBON	
	R959	QRD148J-272S	2.7K	1/4W	CARBON	
	R960	QRD148J-272S	2.7K	1/4W	CARBON	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E11212-002	CIRCUIT BOARD	
		E300209-018	HEAT SINK	
		E304092-001	LED HOLDER	
		E33754-005	TIE BAND	
		E67292-002	H.SINK BRACKET	
		E67293-002	BRACKET	
		E70845-004	SPECIAL SCREW	
		E70945-H40B	HEAT SINK	
		SBSB3008CC	SCREW	
		SBSB3008CC	SCREW	
		SBSE3012CC	SCREW	
		SBSE3012CC	SCREW	
	J701	EMV7112-003	SOCKET WIRE	
	J702	QMS6302-128	JACK ASSY	
	J703	E03572-007EM	SPK.TERMINAL	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	J704	E03572-007EM	SPK.TERMINAL	
	J801	EMV7112-004	SOCKET WIRE	
	J802	EMV7112-003	SOCKET WIRE	
	J804	EMV7112-003	SOCKET WIRE	
	L701	EQL0001-1RO	INDUCTOR	
	L702	EQL0001-1RO	INDUCTOR	
	S701	QST4231-E01	PUSH SWITCH	
	S702	QST4231-E01	PUSH SWITCH	
	EP003	E70859-001	EARTH PLATE	
	RT801	E67764-103	TERMINAL	
	RY901	ESK5D24-218	RELAY	

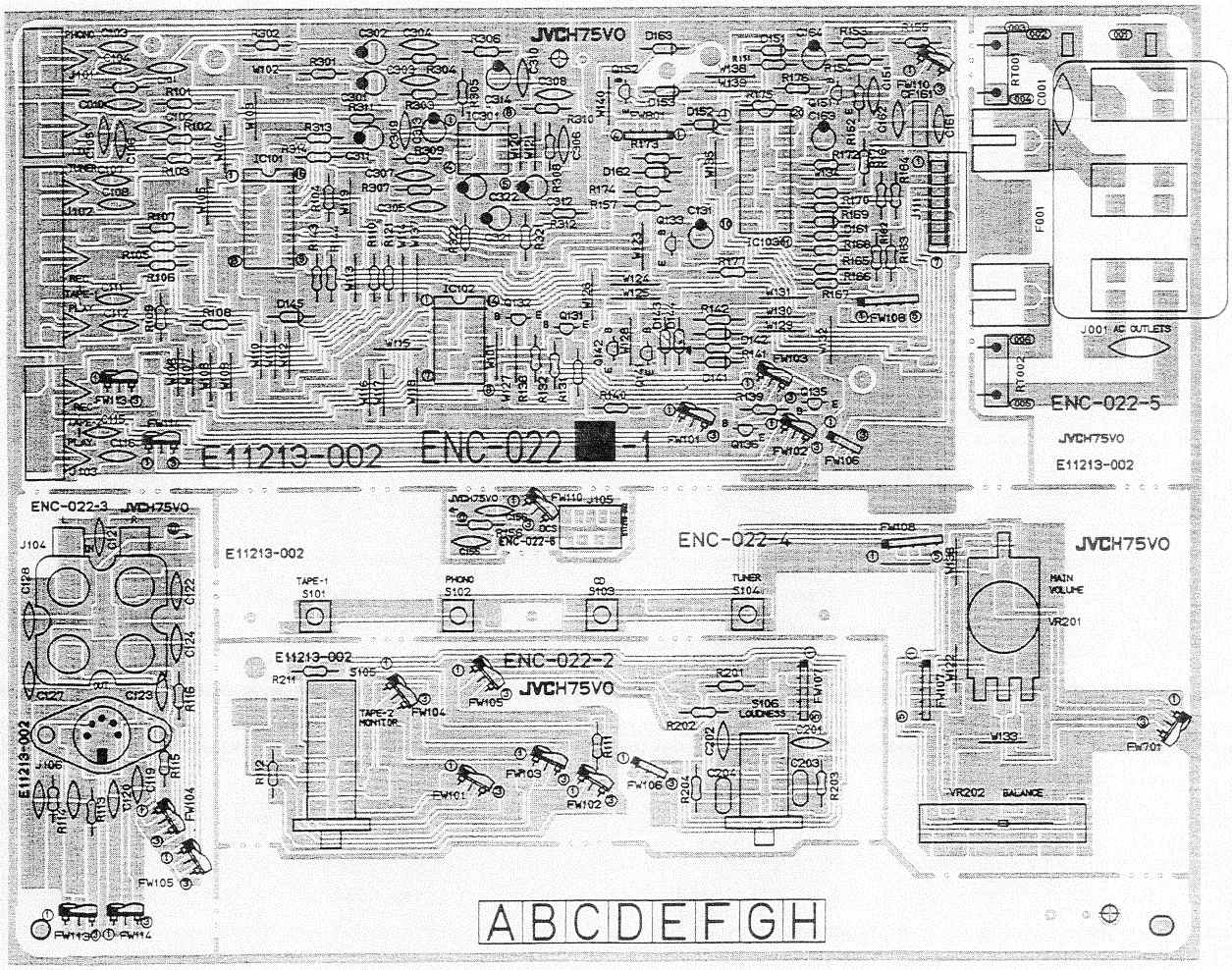
⚠ : SAFETY PARTS

■ ENC-022 □ Pre-Amplifier P.C. Board Ass'y

Note: ENC-022 □ Varies according to the areas employed. See note (1) when placing on order.

Note (1)

P.C. Board Ass'y	Designated Areas
ENC-022 A	Canada
ENC-022 F	U.S.A
ENC-022 G	U.S.Military Market



TRANSITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	Q131	DTA114YN	SILICON	ROHM	
	Q132	DTA114YN	SILICON	ROHM	
	Q133	DTA114YN	SILICON	ROHM	
	Q135	2SD1302(S,T)	SILICON	MATSUSHITA	
	Q136	2SD1302(S,T)	SILICON	MATSUSHITA	
	Q141	DTC144EN	SILICON	ROHM	
	Q142	DTC144EN	SILICON	ROHM	
	Q151	2SC1685(R,S)	SILICON	MATSUSHITA	
	Q152	2SC1740LN(R,S)	SILICON	ROHM	

⚠ : SAFETY PARTS

I. C. S

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	IC101	TC4052BP	I.C.	TOSHIBA	
	IC102	TC4066BP	I.C.	TOSHIBA	
	IC103	M50761-304P	I.C.	MITSUBISHI	
	IC301	NJM4558D-D	I.C.	JRC	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	MAKER	AREA
	D141	1S2473	SILICON	ROHM	
	D142	1S2473	SILICON	ROHM	
	D143	1S2473	SILICON	ROHM	
	D144	1S2473	SILICON	ROHM	
	D145	RD9.1EB3	ZENER	NEC	
	D151	1S2473	SILICON	ROHM	
	D152	RD5.6EB3	ZENER	NEC	
	D153	1S2473	SILICON	ROHM	
	D161	1S2473	SILICON	ROHM	
	D162	RD5.6EB3	ZENER	NEC	
	D163	1S2473	SILICON	ROHM	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	C001	QCZ9038-103	0.01MF	125V	CERAMIC	A
⚠	C001	QCZ9038-103	0.01MF	125V	CERAMIC	F
	C010	QCF21HP-223	0.022MF	50V	CERAMIC	
	C101	QCF21HP-223	0.022MF	50V	CERAMIC	
	C102	QCF21HP-103	0.01MF	50V	CERAMIC	
	C103	QCS21HJ-101	100PF	50V	CERAMIC	
	C104	QCS21HJ-101	100PF	50V	CERAMIC	
	C131	QETB1EM-106	10MF	25V	ELECTRO	
	C151	QFN81HK-103	0.01MF	50V	MYLAR	
	C155	QCF21HP-473	0.047MF	50V	CERAMIC	
	C156	QCS21HJ-101	100PF	50V	CERAMIC	
	C161	QCS21HJ-151	150PF	50V	CERAMIC	
	C162	QCS21HJ-151	150PF	50V	CERAMIC	
	C163	QETB1EM-106	10MF	25V	ELECTRO	
	C164	QETB1AM-107	100MF	10V	ELECTRO	
	C201	QCS21HJ-181	180PF	50V	CERAMIC	
	C202	QCS21HJ-181	180PF	50V	CERAMIC	
	C203	QFN81HK-333	0.033MF	50V	MYLAR	
	C204	QFN81HK-333	0.033MF	50V	MYLAR	
	C301	QETB1HM-475	4.7MF	50V	ELECTRO	
	C302	QETB1HM-475	4.7MF	50V	ELECTRO	
	C303	QCS21HJ-101	100PF	50V	CERAMIC	
	C304	QCS21HJ-101	100PF	50V	CERAMIC	
	C305	QCY21HK-182	1800PF	50V	CERAMIC	
	C306	QCY21HK-182	1800PF	50V	CERAMIC	
	C307	QCY21HK-682	6800PF	50V	CERAMIC	
	C308	QCY21HK-682	6800PF	50V	CERAMIC	
	C309	QCS21HJ-101	100PF	50V	CERAMIC	
	C310	QCS21HJ-101	100PF	50V	CERAMIC	
	C311	QETB1HM-475	4.7MF	50V	ELECTRO	
	C312	QETB1HM-475	4.7MF	50V	ELECTRO	
	C313	QETB1AM-107	100MF	10V	ELECTRO	
	C314	QETB1AM-107	100MF	10V	ELECTRO	
	C321	QETB1CM-476	47MF	16V	ELECTRO	
	C322	QETB1CM-476	47MF	16V	ELECTRO	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R101	QRD148J-102S	1K	1/4W	CARBON	
	R102	QRD148J-102S	1K	1/4W	CARBON	
	R103	QRD148J-102S	1K	1/4W	CARBON	
	R104	QRD148J-102S	1K	1/4W	CARBON	
	R105	QRD148J-102S	1K	1/4W	CARBON	
	R106	QRD148J-102S	1K	1/4W	CARBON	
	R107	QRD148J-102S	1K	1/4W	CARBON	
	R108	QRD148J-102S	1K	1/4W	CARBON	
	R109	QRD148J-102S	1K	1/4W	CARBON	
	R110	QRD148J-102S	1K	1/4W	CARBON	
	R111	QRD148J-102S	1K	1/4W	CARBON	
	R112	QRD148J-102S	1K	1/4W	CARBON	
	R115	QRD148J-102S	1K	1/4W	CARBON	
	R116	QRD148J-102S	1K	1/4W	CARBON	
	R121	QRD148J-681S	680	1/4W	CARBON	
	R131	QRD148J-104S	100K	1/4W	CARBON	
	R132	QRD148J-222S	2.2K	1/4W	CARBON	
	R136	QRD148J-222S	2.2K	1/4W	CARBON	
	R139	QRD148J-104S	100K	1/4W	CARBON	
	R140	QRD148J-104S	100K	1/4W	CARBON	
	R141	QRD148J-223S	22K	1/4W	CARBON	
	R142	QRD148J-223S	22K	1/4W	CARBON	
	R143	QRD148J-223S	22K	1/4W	CARBON	
	R144	QRD148J-223S	22K	1/4W	CARBON	
	R151	QRD148J-102S	1K	1/4W	CARBON	
	R152	QRD148J-473S	47K	1/4W	CARBON	
	R153	QRD148J-473S	47K	1/4W	CARBON	
	R154	QRD148J-103S	10K	1/4W	CARBON	
	R155	QRD148J-102S	1K	1/4W	CARBON	
	R156	QRD148J-100S	10	1/4W	CARBON	
	R157	QRD148J-124S	120K	1/4W	CARBON	
	R161	QRD148J-103S	10K	1/4W	CARBON	
	R162	QRD148J-103S	10K	1/4W	CARBON	
	R163	QRD148J-103S	10K	1/4W	CARBON	
	R164	QRD148J-103S	10K	1/4W	CARBON	
	R165	QRD148J-103S	10K	1/4W	CARBON	
	R166	QRD148J-103S	10K	1/4W	CARBON	
	R167	QRD148J-103S	10K	1/4W	CARBON	
	R168	QRD148J-103S	10K	1/4W	CARBON	
	R169	QRD148J-473S	47K	1/4W	CARBON	
	R170	QRD148J-332S	3.3K	1/4W	CARBON	
	R171	QRD148J-105S	1M	1/4W	CARBON	
	R172	QRD148J-103S	10K	1/4W	CARBON	
	R173	QRD148J-103S	10K	1/4W	CARBON	
	R174	QRD148J-471S	470	1/4W	CARBON	
	R175	QRD148J-103S	10K	1/4W	CARBON	
	R176	QRD148J-103S	10K	1/4W	CARBON	
	R177	QRD148J-561S	560	1/4W	CARBON	
	R201	QRD148J-472S	4.7K	1/4W	CARBON	
	R202	QRD148J-472S	4.7K	1/4W	CARBON	
	R203	QRD148J-223S	22K	1/4W	CARBON	
	R204	QRD148J-223S	22K	1/4W	CARBON	
	R211	QRD148J-470S	47	1/4W	CARBON	
	R213	QRD148J-105S	1M	1/4W	CARBON	
	R214	QRD148J-105S	1M	1/4W	CARBON	
	R301	QRD148J-222S	2.2K	1/4W	CARBON	
	R302	QRD148J-222S	2.2K	1/4W	CARBON	
	R303	QRD148J-473S	47K	1/4W	CARBON	
	R304	QRD148J-473S	47K	1/4W	CARBON	
	R305	QRD148J-751S	750	1/4W	CARBON	
	R306	QRD148J-751S	750	1/4W	CARBON	
	R307	QRD148J-393S	39K	1/4W	CARBON	
	R308	QRD148J-393S	39K	1/4W	CARBON	
	R309	QRD148J-474S	470K	1/4W	CARBON	
	R310	QRD148J-474S	470K	1/4W	CARBON	
	R311	QRD148J-104S	100K	1/4W	CARBON	
	R312	QRD148J-104S	100K	1/4W	CARBON	
	R313	QRD148J-471S	470	1/4W	CARBON	
	R314	QRD148J-471S	470	1/4W	CARBON	
	R321	QRD148J-152S	1.5K	1/4W	CARBON	
	R322	QRD148J-151S	150	1/4W	CARBON	
	VR201	QVN9A3B-5F5V	250K	1/8W	VARIABLE	
	VR202	QVWA01W-EF5E	250K	1/8W	VARIABLE	

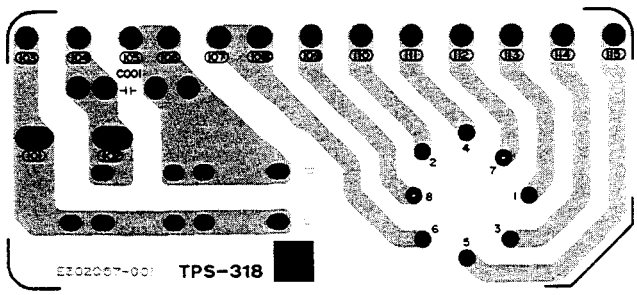
⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E11213-002	CIRCUIT BOARD	
⚠	J001	QMC0637-004	AC SOCKET	F
⚠	J001	QMC0638-001	AC SOCKET	A
	J101	EMN00TV-405A	PIN JACK ASSY	
	J102	EMN00TV-602A	PIN JACK ASSY	
	J103	EMN00TV-402A	PIN JACK ASSY	
	J104	EMN00TP-404A	PIN JACK ASSY	
	J105	QMS3533-001	JACK ASSY	
	J111	EMV7112-007	SOCKET WIRE	
	S101	ESP0001-007	PUSH SWITCH	
	S102	ESP0001-007	PUSH SWITCH	
	S103	ESP0001-007	PUSH SWITCH	
	S104	ESP0001-007	PUSH SWITCH	
	S105	QST2101-E09	PUSH SWITCH	
	S106	QST2101-E08	PUSH SWITCH	
	CF161	ECX0000-400KS	RESONATOR	
	RT001	E67764-302	TERMINAL	
	RT002	E67764-302	TERMINAL	

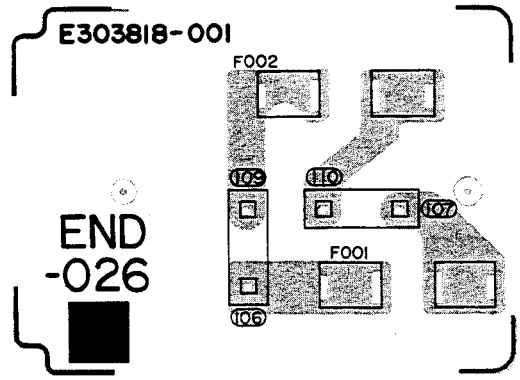
⚠ : SAFETY PARTS

■ TPS-318 [B] Voltage Selector P.C.Board Ass'y



(for U.S.Military Market only)

■ END-026 [A] Fuse P.C.Board Ass'y



(for U.S.Military Market only)

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMG7331-001	FUSE CLIP	
		E303818-001	CIRCUIT BOARD	
		E67764-202	TERMINAL	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	C001	QFH53BM-103M	0.01μF	250V	M.Mylar	

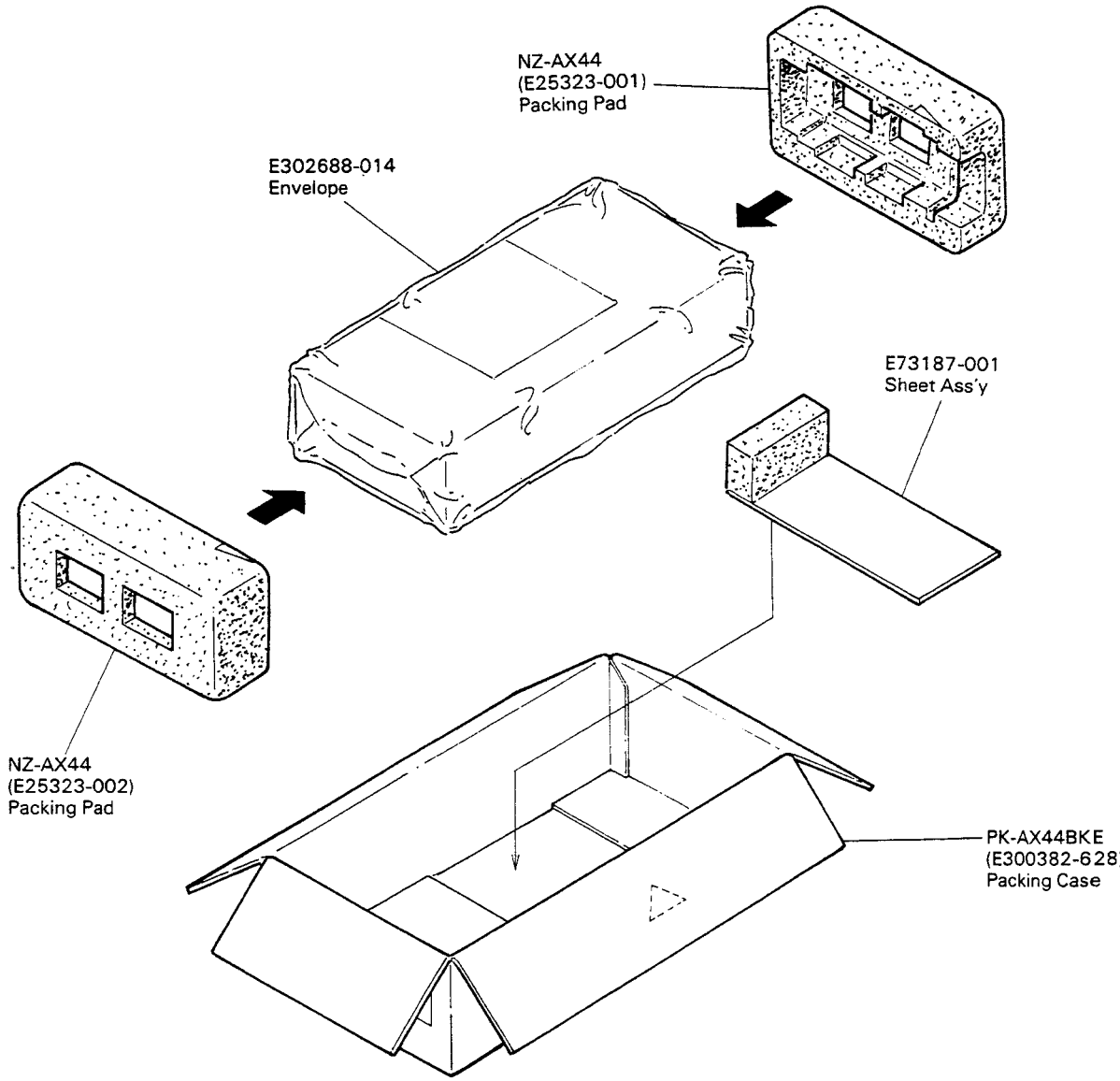
⚠: Safety Parts

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠		QSR0085-006U	VOLTAGE SELECTOR	
⚠		QMC0637-004	3P AC OUTLET	
		E433727-001	TAB	
		E65508-001	TAB	
		E302057-001	CIRCUIT BOARD	

⚠: Safety Parts

Packing Materials and Part Numbers



Accessories List

⚠	Part Number	Part Name	Q'ty	Description	Areas
	E30580-1286A	Instruction Book	1		
	BT20048B	Warranty Card	1		Except C
	BT20025H	Warranty Card	1		C
	BT20046B	Service Information	1		Except C
	BT20071A	Service Center	1		C
	BT20044E	Safety Instruction Sheet	1		J
	E66416-003	Envelope	1		J
	E41202-2	Envelope	1		

⚠ : Safety Parts

The Marks for Designated Area

J ..... U.S.A

C ..... Canada

P, PG ..... U.S. Military Market